



CREDIT: SCOT

Tannery of the Year: South Cape Ostrich Tanning, Mossel Bay, South Africa

South Cape Ostrich Tanning (SCOT), in South Africa, is a young business, as things go in the leather industry, only ten years old. Its founders started to put the necessary machinery and facilities in place at the end of 1999 and produced their first tanned ostrich skin in March 2000. That skin, with the signatures of the key people involved at the time, is now on display at the entrance to the building. Today, SCOT employs 86 people and has the capacity to produce 75,000 finished skins a year. There are around 240 colour options and 28 finishes are available at the moment, although 80% of finished output is black. Its main markets are high-end fashion houses, many of whom value ostrich leather highly as one of the materials they use for handbags and small leathersgoods, and manufacturers of western-style cowboy boots in Mexico and the US.

Ostrich leather, with its distinctive quill marks where the bird's feathers used to be, is exotic, beautiful and in demand. SCOT, one of a small number of tanneries in South Africa that specialises in the material, takes a simple approach and makes aniline leather from the skins, priding itself on the quality of its product at the crust, dyed crust and finished leather stages.

According to marketing director, Frik Kriek, the tannery's exclusive focus on ostrich leather brings three main advantages. It's an exotic leather, and a fairly well known one. It requires no certification from CITES because the birds are bred quite

extensively. Their meat is popular, especially in Europe, and even their feathers have a value in the world of fashion. Secondly, it's well accepted that South Africa is the source of the best quality ostrich leather in the world, meaning that any South African tannery choosing to work with this material will have easier access to the best skins. And, lastly, ostrich leather is what he calls a value multiplier.

"What I mean by that," he explains, "is that it carries value in itself. The image ostrich leather projects of any fashion house offering it is a positive one. It's like crocodile in that regard, but without wishing to show any lack of respect to crocodile leather



From a technical point of view

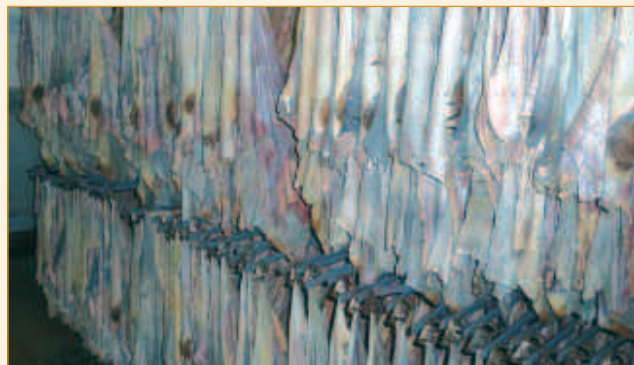
Operational aspects

There are four major aspects that determine the way that SCOT operates. The tannery is owned by a group of ostrich farmers, who also have a slaughter plant nearby. The entire output of skins needs to be processed within the tannery. The shape of the skin does not allow throughfeed production in the flat form that is typical of most tanneries. The dyeing of each batch must be to the highest levels of consistency as finishing is essentially minimal. This is a very high-value product.

The tannery is very new. It was established in 2000 and is located next to the abattoir. The construction is to a very high standard to ensure cleanliness throughout the manufacturing chain. Many of the techniques used are unusual within the general tanning sector, and some of the machinery has been modified to meet the specialised needs of ostrich skins.

The skins are collected from the abattoir every hour, and on receipt are hand-fleshed over rails using dehiders to remove gross fat and residual meat. The skins are then measured and inspected, then wet salted in salting drums. After stacking overnight to part stabilise, the skins are hung on hangers designed to allow good air circulation in a chilling unit that maintains the temperature at a constant five degrees Celsius.

The skins are then sorted according to weight and thickness, and piled under chilled conditions until required. This procedure ensures that the inevitable variations in numbers of skins received can be accommodated, and enables a levelling of production input.



Salted skins being chilled with good air circulation.



Careful fleshing of pre-tanned ostrich skins.



Hand fleshing ostrich skins received at SCOT within one hour of slaughter.



Industrial dry cleaning unit to ensure full grease removal.



Part of the natural crust stock.



All of the chemical processing is performed in wooden drums. These are sophisticated and enable recirculation, screening of solids, automatic water dosing at precise temperatures, and heating and cooling of floats. The weighing and addition of chemicals is manual, with continuous inspection and monitoring of goods and floats throughout process. Attention to detail and cleanliness is paramount.

The soaking and beamhouse process is lime-free, sulfates are avoided in the deliming process, and the skins are processed to the bleached pre-tanned state. The drums are then unloaded and piled, and when at the right moisture content the skins are fleshed or shaved using small shaving machines. This is a very skilled operation, as each part of the skin needs addressing individually.

The skins are then returned to the drums for aqueous degreasing using products that are NPE-free, followed by tanning, retanning and fatliquoring. After unloading, stacking and draining to the required moisture content, the skins are toggle dried, then dry wheeled to remove loose fibre from the flesh side. This is followed by on-site dry cleaning of all of the skins to form a uniform crust stock.

The skins are then remeasured, followed by a quality inspection under very intense light conditions that show all surface defects and enable very precise gradings. The maximum crust stock is considerable at about 10,000 skins. This is part of the buffer system to overcome variations in input volume, but also to ensure optimum choice for dyeing input in terms of quality, area and value of each individual skin. The wet processing then continues with dyeing of the crust stock, toggle drying and dry-wheeling to obtain the maximum uniformity of the flesh side and softening.

The finishing is mainly as pure aniline finish, and application is based on hand spraying. As ostrich skins are not truly flat, the skins are suspended on spray frames, thus allowing the neck and residual wing parts to be hand-extended during spraying. This is a skilled operation as the different skin parts—the predominant quill areas, the more flat peripheral areas, and the highly contoured neck areas—also have different rates of finish absorbency. This is followed by finish polishing on small-size modified buffing machines.

There are other forms of finishing, such as very lightly assisted finishes, even a form of patent leather, but the overriding objective is to create uniform dyeing standards suited for pure aniline fashion leathers. 🌐



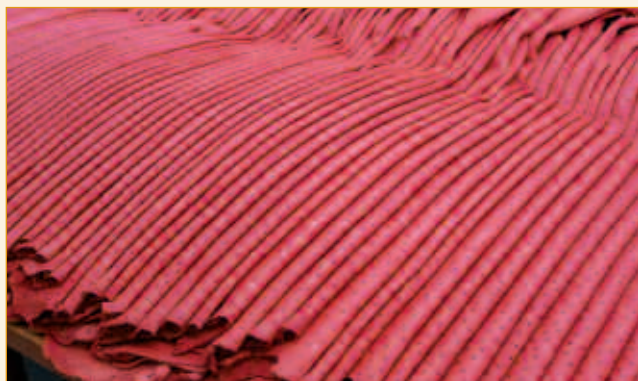
Toggling dyed ostrich skins.



Hand-spraying of ostrich skins. The neck areas have to be opened out by hand to ensure even spray application.



Polishing aniline finished leathers.



Uniform dyeing is central to the success of these lightly finished leathers.



tanners, ostrich has no question marks hanging over it with regard to green issues. People are eating the meat quite widely now."

One disadvantage he points to is the transparency of the ostrich industry. The tannery pays ostrich farmers in the local currency, the rand. If the rand is weak, customers know that the tannery would stand to gain by earning more from an unchanged sales price in euros or dollars and want some of the benefits passed on to them right away. "This has been agony in the last couple of years," Mr Kriek says. "Currency fluctuations cause instability and it's very frustrating."

There is another source of frustration. The tannery is just along the coast from the most southerly point on the African continent and sometimes feels, Mr Kriek continues, isolated and cut off from regular personal contact with customers. SCOT has representatives around the world whom it relies on to push the leather along the distribution channels. The difficulty is that ostrich is usually just one component of a range of exotic leathers that these partner companies offer to clients, with other types, notably crocodile, probably proving easier to push in recent years.

"Crocodile was flying out of the door," he

says, "and demand for ostrich leather seemed lower than it should have been. It came home to us that there are disadvantages for us in not always being customer-facing and forced us to ask how much value the distribution channel is adding to our product today. So we are considering a change of strategy here. We don't want to cut any of our existing partners out; we'd just like them to push a bit more."

The physical distance from the South Cape to, say, Paris is not the issue here. If the leather is in stock, SCOT can land an order anywhere in the world within "three to four days". "If the customer gets the money to us and we have the stock, we can do it," the marketing director explains. "Logistically, we are not that far away. Recently I got a call from a customer in Hong Kong at nine o'clock on a Friday morning. He said he needed the leather by eleven o'clock, Hong Kong time, on Monday morning. Well, we had the stock and we did it. The customer called later to say he hadn't believed me when I said we'd do it."

The front entrance to the tannery at Mossel Bay, South Africa.

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Relationship with production

One of the factors that allowed that Hong Kong customer in the previous example to receive his order is the close relationship between the marketing team and the production team at SCOT. Production director, Pieter Yzelle, is one of the founders of the tannery and has travelled extensively over the last ten years to industry exhibitions and to visit customers. Frik Kriek believes this gives impetus to the customer relationships he is working hard to strengthen. He acknowledges that there must be a bridge between marketing and production in any successful company, but insists that SCOT aims to eliminate any gap that might exist. "I try to make sure my technical colleagues—Pieter, his son Johanne, who is in charge of the wet end, and Cobus Brink, who is in charge of finishing—are not in a backroom, and I think the lack of walls between us is a reason for our success," he says.

Pieter Yzelle took responsibility for setting up the tannery's work-flows and production



From a technical point of view

Skin traceability, value and reward to farmers

A very comprehensive system has been developed as a management tool. Each skin is tagged with a microchip and given an identity number at the abattoir, and this identity is maintained throughout the whole production process. Immediately after receipt and hand fleshing, the skins are spread on glass table illuminated from below and scanned using a fixed overhead camera to provide detail of area. As the skin progresses throughout preservation and manufacture, the production history of each skin in terms of process detail and operative is recorded. This continues to the crust state where the skins are remeasured on a similar scan-measuring machine: a full profile on each skin is thus available including area, thickness, quality, production history and value. When leathers are required, the appropriate skins are raised from this stock and offered for dyeing. Once the leathers are dried, and finally measured, the tags are removed and replaced by a barcode.

This system ensures that three important issues are met. The true value of the stock is known at any time, and its potential for any customer requirement. Selected stock can be dyed and finished to precisely match small or large production needs in the shortest time.

Each skin can be traced back to the individual farmer. This forms the basis of a fair reward scheme based on quality and area. It takes into account good stock husbandry and care.

The system extends beyond the tannery to its manufacturing customers. For the future and ultimately, the consumer, it is also possible to extend the scheme to include a full record of bird husbandry. 🌐



All skins are scanned after fleshing to measure area.



Shows tagged skins awaiting crust-scanning.

systems. He says that one of the biggest decisions he had to take concerned achieving the right balance between handling and automation, between people and machines. Much thought went into this, ranging from the number of physical checks each skin receives by human eye and hand finished on the way to the crust stage (the answer is ten), to the specific demands on machinery imposed by the size of an ostrich skin, around 1.5 square-metres (the tanning drums were made specially for SCOT by Vallero, with dimensions of 2.7 metres in diameter and 2.5 metres in length).

He explains: "You do need to automate some aspects, such as water control, for example; you could never achieve the quantities and temperatures the system needs by turning one tap or another. But we are in the business of making aniline leather and we would like it to look as natural as possible, with as little finish as possible. We can only achieve this by thinking of leather production in the same light as making wine or cheese. I feel strongly about this. Yes, you need the

chemistry, but you also need an appreciation of the product; art and love are part of the recipe for success too."

Future trends

The technical team also takes a keen interest in matters such as trend forecasts, and places special store by the predictions that come from the team at Le Cuir À Paris, who twice a year gives details of the colours and types of leather finish that it believes the big fashion houses will demand in seasons to come. Some of the forecasts that come from leading specialist leather chemical companies also go down well on the South Cape, and the reason for picking these, along with the information from the Paris exhibition, is that in SCOT's experience, the details are faithful to what the big fashion houses they work with do ask for in time. And if the relationship with the customer is strong enough, as it is in some special cases, there is no need to wait to be asked; the tannery will suggest colours and effects to the customer.

"I would say that 30% of our ostrich

leather goes into European fashion houses," Frik Kriek explains. "This is very important for us because it creates a pull factor. We have a very intensive relationship with Hermès, for example, which uses some ostrich leather every year in its handbag collections. With other companies we don't experience any consistency: the use ostrich one season and then not for the next four years. We don't expect them to buy 5,000 skins a year, but it would be good if they would buy, say, 1,000."

In spite of this, and in spite of the global economic downturn, Mr Kriek is disinclined to spend too much of his time searching for new customers. Some, such as one boot manufacturer, have come to SCOT, rather than the other way round. In other cases, the financial situation of the potential new customers is an unknown, leading the tannery to prefer the devil it knows. "It is a struggle at the moment," he admits. "It's a struggle just to meet the sales volume and try to bring in some profit. We think continuing with our



From a technical point of view

Plant and in-house environment

Because of the shape and value of ostrich skins, and the need to maintain the unique grain appearance, it is impossible to use conventional throughfeed tannery machinery. Each skin has to be handled many times, and this demands inspection, evaluation and individual action as appropriate. In practice this provides ten points for assessment. Individual expertise, monitoring and management are therefore part of the system control.

The needs of these skilled operatives and the value of these skins also create other demands. These include a scheduled maintenance programme for all machines and equipment, a high state of cleanliness, and dust extraction systems, and controlled noise levels. There is also fume extraction and scrubbing of drum exhaust fumes to eliminate odours caused by hydrogen sulfide, sulfur dioxide, chlorine, and ammonia emissions.

Water and waste treatment

All of the water consumed by SCOT is drawn from a nearby municipally owned dam, and stored in a single water tank. A double storage tank system holds water that is constantly maintained at 5° to 60°C respectively. The water used in leather processing is carefully controlled: when a specific temperature is required the water management system mixes hot water with the cold supply until the correct temperature is achieved before metering into the drum. The water consumed before this temperature is reached is not wasted as it is discharged into the hot water, reservoir water tank.

The effluent is screened in the tannery, and segregated into three main streams.

The chrome containing effluent is dosed with lime and allowed to settle. The sludge is delivered to one of 12 drying beds for dewatering using a mixture of sand filtration and evaporation to form a chrome-cake. The sulfide containing effluents are delivered to a dedicated tank for catalysed aeration. The third stream contains the



Considerable care is taken of the plant and machinery. Image shows the wooden drums being hand oiled.



Photo shows the settling tank for chrome precipitates, with the pH adjustment tank to the left.

existing customers is the best way to do that, even if it is at lower volumes and, yes, at a lower price than before. We have to keep the skins moving. We can't just buy what we require; we have to take what we are given by the ostrich farmers in the South Cape."

Company structure

It's clear from the earlier remarks about the supply of skins that this tannery is part of an unusual set-up. As mentioned, it is run by a professional leather production management team, but it's mostly owned by a parent company called Mosstrich, whose shareholders are around 180 ostrich farmers across the South Cape region, of whom between 80 and 100 actively supply

ostrich skins at the moment.

That's to say, they supply the birds to the Mosstrich abattoir, earning around \$5 per kilo (cold carcass weight) for the meat, and the abattoir passes the skins to SCOT. It helps that the tannery is only 75 metres away; operatives go across to the abattoir once an hour and bring a batch of raw skins back in small hand-pulled wagons.

But the farmers' interest continues after this changeover. As shareholders of the tanning company, they want it to be successful, but they also have a vested interest in that the tannery adds substantially to the cash in hand they receive for the birds they raise. The leather is worth more than the meat, although the price is more variable because it depends on the market rate and it

depends on the size and grade of the skins at crust stage. But one skin can easily be worth hundreds of dollars.

On the plus side, the tannery has to spend little time and energy managing its raw material supply chain, an aspect of the business that makes life difficult for so many leather producers, between fielding calls from traders, struggling to gain insight into what's going on in the wider market, agonising over the way prices will go and when will be the best time to buy hides. Ostriches hatch in season and are ready for the abattoir 11 or 12 months later, and when they're ready, they arrive. October to March is the busy time, during which 7,000 skins per month can easily make the short journey from the slaughterhouse to SCOT.



general waste waters from the tannery. The supernatant from settling of the chrome precipitates, the aerated sulfide liquors, and the filtrate from the drying beds are all delivered back to this main stream.

The main stream of effluent is then treated as raw feed for activated sludge treatment, with aeration provided by surface aerators placed at opposite ends of a rectangular aeration unit. Effluent is constantly drawn from this biological treatment for clarification, with part of the settled sludge returned for further biological breakdown as conventional for this type of operation. The remaining sludge is delivered as a weak suspension to a separate sludge-dewatering drying beds. These are of similar construction to those used for drying chrome precipitates.

The supernatant from this clarification is pumped to a holding reservoir to enable a controlled rate of discharge to the local municipal treatment works. The salinity of the effluent is considerably diluted by the domestic effluent treated by the municipality, and this water is reused for the irrigation of local golf courses. The tannery has been located close to the sea so that marine discharge of fully treated effluent is possible.

Treatment of solid waste

Accredited waste disposal companies collect all of the solid wastes from the tannery for controlled landfill. Most of this deposit is relatively local, although chrome-containing solids are managed at a specialised site at Cape Town, a round journey of more than 600 kilometres. The volume of waste is relatively small, and even if given away there are no commercial possibilities for using this material. However, the local authorities are investigating composting as a way of utilising biodegradable waste, and the chrome-free solids from biological treatment should be suitable for this treatment.

The fats removed during fleshing are also sold. 🌐



The drying beds for chrome-containing and general sludges.



General view of the aeration as part of the activated sludge treatment

This means SCOT could not halt the supply of skins in times of lower demand or higher stock even if it wanted to. Its capacity is to tan only 6,000 skins per month, so its solution for dealing with the fluctuations and the fastest flows is to wet-salt every skin that comes in. They can keep in this state for up to four months, making it easy for the production team to feed them into the tannery's workflow when the time is right and when demand requires.

Cash in hand

As well as having an obligation to use all of the skins Mosstrich produces, SCOT has a commitment to pay its raw material suppliers as much as possible as quickly as possible. This is the opposite of what

happens in most parts of the leather industry and requires further explanation.

As managing director of Mosstrich, François de Wet has responsibility for maintaining good communication between the tannery team and the farmers. "The relationship works," he insists. "We have been going ten years and the return on investment the farmers have received as shareholders/raw material suppliers of the tannery is good, and if at the end of the year the tannery has done well, the farmers earn a production bonus. I accept that it puts the tannery in an unusual position; it has to serve its raw material suppliers as well as its end customers. What I would say, though, is that we have access here to a limited supply of very high quality raw

material, and we have to try to sustain that and protect it because SCOT is not the only tannery the farmers could sell to. That's why we pay them as much as possible."

The SCOT-Mosstrich relationship adds another dimension. According to Dr de Wet, it gives the farmers a far-reaching view of what they are producing. We know that many farmers regard the leather that tanneries produce from the hides of their livestock as, at best, an afterthought. All the Mosstrich farmer/shareholders, he explains, have a view of what happens to their live ostriches, and of the added value the birds can bring, all the way from the field to high-class handbags in a Hermès boutique in Paris or Tokyo. "They are conscious of this and, naturally, they try to protect their



position," he adds. "They know that if too much money flowed out of SCOT in the form of shareholders' dividends, we might end up with no company. And if we have to take a decision to pay shareholders less to protect the company, don't forget that it's these same guys who must make that decision, and they do, without any hesitation. But if, at the same time, we ended up with a profit of 100 million rand (around \$12.5 million) at the end of the year, it would be an indication that we had mismanaged the relationship because it would mean more money could have been in the hands of the farmers at an earlier stage."

Everything evens itself out in the end; SCOT cannot, he says, "hide the money" and doesn't want to. The Mosstrich Board of Directors, mainly farmers will decide what percentage of any such profit they will divide among themselves, and what percentage to invest back in the operation to fund the purchase of new equipment, for example.

About people

For the last two-and-a-half years, a 6.5% shareholding in SCOT has been in the hands of the Mosstrich Black Economic Empowerment Trust, a body set up by the company to help workers from the Black community, in this case, people working on the shop floor either in the tannery or the abattoir, to benefit directly from business success. Dr de Wet describes the relationship between the management team and all of the workers in the tannery as positive. People are only human and

The drums line running. Vallero constructed the drums to a specific design to suit the smaller size of ostrich skins compared to bovine hides.

CREDIT: SCOT

there have been, at times, some quite heated verbal exchanges, but at no stage in the history of the business have workers downed tools, far less gone on strike. It may not always be moonlight and roses, but he insists that the human relationships are strong enough to withstand any differences of opinion that have occurred so far.

In the twenty-first century, it's impossible to cover the subject of employee-management relations in South Africa without raising the subject of HIV and AIDS. The Mosstrich Group has worked hard to raise awareness of the subject among its workers, emphasising the importance of people knowing their own status. "The workers are hungry to receive correct information in terms of HIV," the managing director says. "We first did some training on this about five years ago. Two years later, we asked the workforce for their opinions on what we should devote training time and budget to and they asked for a session on HIV again. We're happy to help in any way we can."

Turning to more pleasant matters, the company also sponsors a workers' soccer team, and sponsors student places for disadvantaged young people at a variety of schools around the Southern Cape, and at a specialist agriculture college in the nearby town of Riversdale.

For François de Wet, the most important

thing for SCOT to do in the years ahead is to maintain this dynamic, to sustain the relationship for the benefit of the farmers, of the tannery and of the people who work there. "We have other plans," he adds. "There are new leather finishes that we want to develop to help us make our customers and consumers really excited about ostrich leather. There is only so much we can do, compared to bovine, but we have developed some new ideas in the past year. We also hope to develop the appeal of ostrich leather away from handbags and cowboy boots and move more into clothing. We already have one customer who has put our leather into a collection of jackets and we're very excited about that."

Ostrich leather has lost ground in the last five or six years to other exotics, especially crocodile. But crocodile seems to have taken a bigger hit in the economic squeeze and SCOT harbours the hope that they can help re-establish ostrich as the preferred exotic leather. "There are many wealthy people in the world, who, unfortunately, still don't know what ostrich leather is," François de Wet says. "The money involved with this material, across the whole of the industry, is too little for us all to launch a collective campaign to promote ostrich leather, so we have a challenge in trying to find a way to boost demand for the leather, but we are working on it." 🌐