

Born in the USA

The United States of America can truly be said to have been the main driving force behind the mechanisation of the footwear business. With a large domestic population it also quickly developed a substantial footwear industry to supply it. This in turned spawned a supply chain to feed the factories with all the materials, machinery and components that it required. While very little of the industry and its infrastructure is now left, there still remain some significant component suppliers which, while still headquartered in the US, have become a significant presence in the global market and offer a range valuable products to the world's shoemakers.



Auburn Leather's cutting teams can generate up to 150,000 laces per day. CREDIT AUBURN LEATHER

AUBURN LEATHER

Any mention of Kentucky immediately brings to mind Blue Grass country, Bourbon whiskey, thoroughbred horses and the Kentucky Derby. The state also contains the largest supplier of leather shoe laces in the world, Auburn Leather. Established in 1863, the company is still owned by the founding Caldwell-Howlett family and is currently run by fifth generation member Lisa Howlett. Leather laces have been around ever since man first began to secure pieces of animal skin around his feet. They continue to be an important value-added component on a wide range of footwear styles and applications with leading brands worldwide. While Auburn's roots are firmly in the original soil of the US footwear industry, it has successfully built on them over its 150 year existence to make itself the leading supplier it is today.

There is a saying in the company that "A lace is only as good as the leather from which it is cut", so true quality begins with the hides themselves. Auburn continues to use only US Spread Dairy cowhides due to their consistency in thickness and overall quality. Hides are bought in a wet blue state and then processed from start to finish through tanning, colouring and the final cutting of the laces. Exacting standards are demanded, so the company's testing regimen follows industry and brand-specific performance standards. These cover physical properties such as strength, thickness, abrasion resistance, temper and colour fastness to water as well as comprehensive RSL-based (Restricted Substances) testing of the chrome-tanned wet blue leather itself.

Although there are several types of tannage used to process leather laces, Auburn focuses on two primary processes: chrome and alum (aluminium). Chrome tanned laces are the most widely used in shoes and boots. Properly tanned, this leather produces laces with excellent tensile strength and wear resistance, plus a mellow, pliable feel. A chrome tanned lace is claimed to be 'strong yet tie-able'. Alum-tanned laces are more commonly used for sporting goods' lacing such as in baseball gloves and lacrosse sticks or mechanical belting and belt lacing. A number of moccasin



Good quality wetting and welt sewing is essential for producing sound Goodyear welted shoes. CREDIT CHURCH & CO. LTD.

shoemakers still use alum tanned laces for their whip-stitching lace but it is not recommended for shoes that go through any wetting/drying operations.

Colouring is performed in-house where tanned hides are drum-dyed using transparent, soluble aniline dyes which, while imparting good colour, also allows the leather to retain the natural look of its grain surface. Slight shade variation can occur from dye lot to dye lot, however, due to the natural base shade of the hide itself. Recent fashion trends have driven the need for ever more colours and Auburn now boasts over 150 regular colours, giving designers a much wider freedom of choice than ever before.

Additional lace styles recently introduced include metallic foils, braided, folded/stitched leather as well as reformulated traditional styles such as Cougar oil-tanned alum logger boot laces, now available in a new WL Gore-approved non-wicking version that improves water repellence. After 150 years in business, Auburn Leather continues to deliver the highest level of quality and strives to meet the demands of an ever-changing market.

BARBOUR WELTING

Barbour Welting is another company with its origins in the early days of the US shoe industry, in its case being founded by John Barbour in 1892 at Brockton, Massachusetts as the Brockton Rand Company. Eighteen years earlier, the Goodyear welting

process had appeared and was soon in widespread use. John Barbour saw the potential and turned production over to leather welting. In 1923, the company name was changed to the Barbour Welting Company. 90 years on, the company is run by Richard Hynes, whose father had bought the company in 1975, his brother-in-law Bruce Pearson and his sister Nancy Pearson.

When John Barbour started the business, he set out first and foremost to service the needs of his customers and this has remained the company ethos ever since. By always using the best raw materials and workmanship, the company has worked hard to maintain its position in the footwear industry. In this it has clearly been successful as its products remain the number one choice for quality leather welting and randing.

Producing the very best Goodyear welting involves two apparently conflicting objectives. The first is visual such that when sewn into the shoe and edge-finished, the trimmed edge finishes so cleanly that the welt literally blends in with the sole. This suggests the use of a rather solid non-porous material. The second is that a welt needs to be made from soft, supple and flexible leather that whilst capable of holding a stitch also has sufficient tensile strength to hold the shoe together in wear. What makes Barbour welting different from others is years of experience in securing the very best vegetable tanned leather where most is not strictly suitable.

Producing such welting also calls for great skill in selecting and cutting it according to the requirements of the specific type of shoe in which the welt is to be used. Due to fibre variation within one shoulder or butt, the entire piece is never cut for one lot; only certain portions with similar temper and fibre characteristics are used. The machinery employed is almost 100% engineered and built in-house and, the company believes, is superior to any available elsewhere.

For example, the strips of leather from the cutting department are joined on an automatic line with a cement bond reliability of some 99.8%, resulting in joins that are almost invisible. It is this level of quality that has convinced many doubting shoemakers that 'continuous' welting is reliable and, more importantly, saves money compared to traditional cut welts which require the sewing of individual strips into each shoe. In addition, special chemical treatments are used to further 'fine tune' the product to a customer's specific needs. This also helps to maintain consistency of performance from shipment to shipment.

Today, Barbour supplies top quality shoemakers all over the world. In order to do this, it has a 'library' containing a vast number of different styles of welt and randing. Whatever a manufacturer might need in terms of welting for Goodyear constructed shoes or randing for cemented footwear, the company

should be able to supply it. Whereas so many companies have sought to survive by cutting costs and lowering standards, Barbour never has. The very fact that quality Goodyear welted producers have remained recession-proof and are busier than ever shows this to be a sound policy.

AMERICAN + SCHOEN

American & Schoen Machinery Company, a subsidiary of Schoen + Sandt of Pirmasens, Germany, has been a supplier to the footwear industry for over 40 years. While it distributes its parent company's machines and ancillaries for a wide variety of footwear manufacturing applications, it is also active on the shoe component side with its patented Tru-Fit shank system. Shanks are normally made from stamped steel strip and riveted to the insole or, in some instances, wood and then attached using hot melt adhesive. The Tru-Fit system is totally different in that it exploits the extremely high strength-to-weight ratio of fibreglass and resin by the use of a special machine that cuts, shapes and bonds a shank to the insole in one operation.

With the proper size set (this takes less than five seconds), the machine cuts a shank from a reel of Tru-Fit material. The operator locates it against the stops of the shank gauge where it is held by vacuum, loads a shoe onto the jack and depresses the foot treadle. In a seven-second cycle, the machine

moves the gauge holding the limp and wet shank into position over the waist of the shoe and raises the jack so that it is pressed down onto the insole. It then returns the gauge to the loading position and activates the shank to bond it to the insole before automatically releasing the shoe.

Activation has caused the thermosetting resins coating the glass fibres to be permanently set in the shape of the shoe bottom and bond them securely to the insole. The machine is quoted as being able to produce anything up to 1800 pairs per eight hour shift depending on the type and style of shoe and work handling method. Curing quickly as it cools down the shank hardens and becomes stronger than an equal weight of steel. A test cycle equivalent to more than 225 miles of walking carried out by an independent testing laboratory showed no evidence of any failure.

The system is now well proven and is increasingly seen as an effective alternative to steel shanks in many types of footwear. In addition to its physical performance, American & Schoen says it has advantages in terms of cost in that it eliminates the need to carry a large shank inventory, losses caused by shanks becoming obsolete due to style changes, and the risk of lost production time while waiting for a shank supplier to produce new tooling when a new last is introduced. It also means that problems which should not occur but frequently do for a variety of reasons, such as shoes with the wrong size or shape of shank or shanks not accurately located or securely attached to the insole, should be completely eliminated.

IDEAL TAPE CO

Reinforcement tapes are often seen as an unnecessary expense even though they add very little to the cost of an average shoe. This is a mistake as good reinforcing products correctly applied can make all the difference between a shoe that looks good, fits well and keeps its shape, and one that does not. This is particularly true in the case of ladies dress and fashion shoes. The important thing however, is to use a tape that is correctly engineered for the application involved whether it is the top line, back seam or merely general reinforcement.



Applying the shank is both fast and consistently accurate. CREDIT AMERICAN + SCHOEN



Materials are formulated and adhesive coated at Lowell, Mass. ensuring the same quality and performance wherever the tapes are cut. CREDIT IDEAL TAPE CO



Coated materials are converted into tapes and sheets at strategic locations around the world for quick and efficient delivery.

CREDIT IDEAL TAPE CO

Ideal Tape Co., pioneered the use of adhesive coated reinforcement tapes for shoe uppers back in the 1950s and has unparalleled experience in the weaving, adhesive coating and tape cutting technologies needed to produce top quality reinforcement tapes with specific properties to match specific applications. Over the years, Ideal has come to be regarded as a world leader with products that can be totally relied upon.

Among the most significant developments was 'topline tape'. This

clever product combines nylon warp (directional) and bunches of cotton weft (cross) threads. The nylon threads provide high directional strength with a degree of controlled elasticity to produce a strong topline that will still 'give' a little with the foot. The bunching of the cross threads enables the tape to be easily conformed to quite extreme curves without losing directional strength. Ideal offers a variety of topline tapes to suit all types of styles and materials.

Ideal's complete range of products also includes tapes for all types of seam and general reinforcement, sheet materials for use as backers or for specific applications such as the reinforcement of eyelets and other fastenings. The materials used include various weights and combinations of woven natural and synthetic fibres, and synthetic non-wovens. Balancing tensile strength, elasticity and thickness of a particular material chosen against the width of tape cut from it enables a reinforcement to be tailored to a shoe style, upper material or set of factory conditions. The possible combinations are practically endless.

Ideal Tape formulates and adhesive coats the fabrics and non-wovens used in its reinforcement products in Lowell, Massachusetts. It converts these into tapes and sheets again in Lowell and, also, in Italy, Belgium and Singapore so that it is able to supply its products quickly and efficiently wherever they are required in the world. Needless to say, with nearly 60 years of experience, the company is also able to offer unrivalled technical advice and support.

Genuine Rawhide Lace™

"Not an accessory or an afterthought, but rather a value-added component to the shoe design."

- Lisa Howlett, President

The Road to TRUE COLOR

Since our inception in 1863, Auburn has developed leather one way...the right way. The same holds true for the leather colors we create. Traditional drum-dyed leather delivers true, rich color while retaining the natural characteristics of the leather.

At Auburn, we treat each new color like it was our first.

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LUNDER MANUFACTURING

Lunder Manufacturing is a family owned and managed business that has been supplying components to footwear and leathergoods manufacturers for more than fifty years. Founded in 1959 by brothers-in-law Jerome Gillis and Leonard Lunder, the company is now run by Jerome's son Tod. Based in Saco, Maine, in a modern purpose built facility, the company has a reputation for high quality and competitive pricing. It has pursued this policy since the very beginning and it is one that has enabled it to survive and grow in an industry where so many others have fallen by the wayside.

Whereas all the other suppliers covered by this article concentrate on specific products, Lunder offers a wide range of components and specialist services predominantly aimed at boot and shoe uppers. It has a highly skilled workforce that enables it to interpret customer requirements rapidly and to consistently high quality standards and tight delivery schedules. This has won it strong customer loyalty with many leading footwear brands.

Its capabilities include bindings, braiding, pipings, padded collars, tassels and randing, as well as many of the procedures used to produce them such as die-cutting, perforating and edge gimping, cementing and custom folding, slitting and other custom work as well as a design service. All products are made to individual customer specification and nothing is supplied 'off the shelf'. The materials used can be almost any type and colour of leather, synthetic, textile or ribbon, supplied either by the customer or company itself. If a customer is looking for new ideas, there is an experienced research and development department that is usually able to come up with the right answer.

An ability to offer such a wide range of products and services clearly requires more than just skilled operatives and this is where the company also has a major strength: its equipment. Many of the machines needed to perform the various operations that go into making many of these components are extremely specialised and no longer made. Lunder still uses all the machines supplied by the Clark Machine Company from Everett, Massachusetts, when the company started. It says much about their original build quality and the great care that has been taken in maintaining them all these years. The truth is, nothing has been produced since that can better them.

Like the special paint finishes, leather upholstery and other accessories offered by car manufacturers to enhance the base model, so high quality upper components and trimmings can lift an otherwise perfectly practical if not very inspiring shoe into a best seller and greatly add to its retail value and margin of profit. Let's be honest, the look of a shoe is all important to the vast majority of consumers and this is what Lunder aims to respond to.

TEXON INTERNATIONAL GROUP

Mention Texon and the first thing that springs to mind is insoles and, in particular, cellulose insole board. The second is innovation, as Texon has an unrivalled record of being the first to introduce a number of significant new

materials and technologies to the footwear industry. First and foremost of course is cellulose board which caused a revolution in insole manufacture in the late 1940s. In addition, the company was the first to introduce the needle-punched non-woven insole, antistatic insole, an insole incorporating 100% recycled fibres (Texon EcoSole) and fully recyclable toe puff and counter materials (Texon ReForm).

Texon started life 1947 at Russell, Massachusetts, with the aim of finding a better and cheaper alternative to traditional insoles for the footwear industry. The result was a cellulose board with all the advantages of leather but none of the drawbacks. It breathed, absorbed and released perspiration, had the right balance of firmness and flexibility, and provided lasting comfort. It also came in roll form in a variety of substances. Shoemakers loved it as it could be used for almost any construction and offered good performance and uniform quality together with considerable cost savings.

Today, Texon International Group is, as its name implies, a globally focused company with a multi-cultural, multi-linguistic team providing sales and after sales technical services to support its products for footwear manufacturers in the Americas, Greater China, the Pacific Rim, India and across European. Production is now also spread internationally, with needle punched non-woven insoles, Strobel insoles, linings and thermoplastic toe puffs and heel counters produced at Skelton in the UK and cellulose board products at Möckmühl in Germany. The full range of materials is also available from manufacturing facilities in Guandong province, China.

The company has a dedicated product development team working to create innovative solutions for process improvement as well as cutting edge new products. The company's aim as always is to be first to market with new, innovative solutions to make life easier for shoemakers by reducing process costs and production time, increasing productivity while using less energy, generating less waste and managing their impact on the environment.



Lunder's manufacturing capabilities are widespread.

CREDIT LUNDER MANUFACTURING



The RapidTex machine/material system is fast, accurate and zero waste.

CREDIT TEXON INTERNATIONAL

Current innovations include Texon RapidTex technology, which is a zero waste toe puff material that has been engineered to perform to the same level as the company's filmic sheet materials. This machine/material system eliminates the need for cutting, skiving, spotting, stitching and fusing toe puffs as directly printing them onto the upper is the only process needed. Intended for use with leather uppers, independent studies have shown that it can reduce process time by 70–90% depending on the type of footwear.

Another recent development has been Texon Sphere, a zero waste solution for both heel counters and

toe puffs. This sintered product contains up to 40% recycled material and eliminates the need for cutting, skiving and waste removal while giving customised shapes to fit precisely where the reinforcement is needed. While this product is primarily aimed at sports and casual shoes, local sales and technical staff are always available to advise the best product for customers' individual needs. These innovations amply demonstrate Texon's continuing commitment to finding the best solutions to the problems of shoemaking's and there will doubtless be many more to come in the future. ♻️