

Footwear Glossary

Shoe Construction Terminology

A

Aglet: The plastic sheath at the end of a shoelace which makes the lace easier to thread through the eyelet holes of a shoe.



Ankle Strap: A strap attached at the rear of the shoe that encircles the ankle. Usually features an adjustable buckle or elastic.



Ankle Wrap: Straps that are meant to be wrapped around and tied around the ankle for a stylish accent.



Apron Toe: A type of toe characterized by a large overlay that covers the front of the toe and has visible edges or stitching.



Arch: The high, curved part of the sole of the foot, located between the ball of the foot and the heel. This term can also refer to the raised area of the insole of the shoe, for padding and support of the arch of the foot.

Automatic Sewing Machine: Sewing machines that sew a predetermined pattern rapidly and consistently. Used for topstitching uppers, tacking, shadow topstitching, etc.

B

Back Seam: The vertical seam at the back of a shoe or boot.



Ball: The padded area of the foot between the big toe and the arch of the foot.

Bellows Tongue: A shoe tongue that is attached at both the top and the sides of the shoe.



Bicycle Toe: A type of toe characterized by two stitched straight line accents, so named because of their similarity to professional bicycling shoe detailing.

Blucher Toe: A type of toe characterized by a smooth, turned stitch border around the toe area, like an apron toe style in reverse.

Boot Heel: Typically found on boots, this is a wide, stable type of heel that usually is not very high.

Bottoming: bottoming refers to the process of attaching the Sole to the Upper. The basic methods of sole attachment include cementing, molding / vulcanizing, and sewing.

Braided Thread: a thread where the ply are braided rather than twisted together so they have very good ply adhesion. A&E's brand for this item is our Poly Braid which comes in Sizes 4 and 6.

- #4, white, Poly Braid Cat# DA70148 Color #30001
- #4, black, Poly Braid Cat# P911141 Color #35907
- #4, brown, Poly Braid Cat# P914140 Color #98003
- #6, white, Poly Braid Cat# P911863 Color #30001

This product is generally used for stitching the outsole.

Brannock Device: A device used to measure the length and width of the foot in order to ensure proper shoe fit.

Break: The natural crease created across the vamp of the shoe from everyday wear.

Buckle: A clasp at the end of a length of fabric or leather that joins one end of the material to the other.

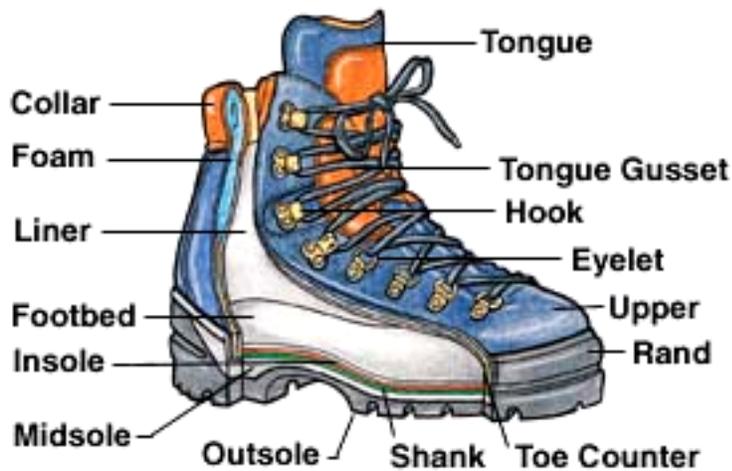
Burnish: The process of buffing a shoe surface to achieve an antiquing effect of the leather.

C

Cap Toe: A type of toe style with a full toe overlay and a straight stitching line across the top part of the toe, often seen in dress shoes.

Cemented Construction: A shoe construction in which the upper of a shoe is cemented, rather than stitched, to the sole of the shoe. Cement construction results in a lighter, more flexible shoe.

Collar:



Column Heel: A type of women's high heel that's round and column-shaped.

Combination Last: A footwear last in which the heel is two sizes smaller in width than the widest part of the shoe, producing a shoe with a narrow heel and a wide toebox.

Contoured Footbed: An insole that molds to the shape of the foot.

Counter: A stiff piece of material placed at the heel of a shoe between the lining and upper in order to retain the shape of the shoe.

Crepe Sole/Crepe Rubber: A type of crude natural rubber sole characterized by a crinkled texture like crepe paper.

Curing: The application of chemicals to animal hides in preparation for the tanning process.

Cushioning: Padding on the insole or outsole of a shoe for added comfort and stabilization.

Cylinder bed sewing machine: A sewing machine having a horizontal cylinder arm or post which allows a closed upper to be moved freely around the working area.

D

Dressing: The application of polish or gloss to a shoe to maintain its finish and appearance.

Dri-lex: A dual layered configuration composed of Hydrofil, a moisture absorbing nylon fiber as a under layer, and a moisture resisting outer layer knitted together.

Dual Density Midsole: Seen in running shoes, a midsole that employs two different densities of cushioning foam, with denser foam where the foot would normally tend to roll.

E

Elastic Gore: An elastic fabric panel inserted into shoes to provide stretch.

Energy Return: In running and athletic shoes, it is the response after the foot strikes the ground, a sort of propulsion that helps maintain an effective 'gait' or stride.

E.V.A.: (Ethylene Vinyl Acetate) A synthetic compound used for outsoles. E.V.A. provides cushioning to the foot and is easily shaped by heat and pressure.

Eyelet: A hole through which a lace is threaded; may be reinforced with a metal ring or grommet.

Eyeleting: This is the operation where the eyelets are attached to the upper. The machine punches and spaces the lacing holes, feeds and sets the eyelets in proper alignment.

F

Fair stitch: The stitching of the Welt to the Midsole.

Fiberboard: A material made primarily of wood pulp which is used for counters, insoles and heel lifts.

Finish: The process by which the final appearance of a shoe is created. The finish can include the application of polish to create a high-gloss finish, or a contrasting polish to create a rub-off finish like 'antiquing'.

Flat bed sewing machine – Sewing machine designed for stitching upper components together on flat surfaces.

Flat Heel: Shoes with a very low or no heel height

Footbed: the insole of the shoe, where the foot rests. Often removable, the footbed is contoured and provides foot positioning, comfort, and insulation. Aftermarket footbeds can improve boot fit and upgrade performance.

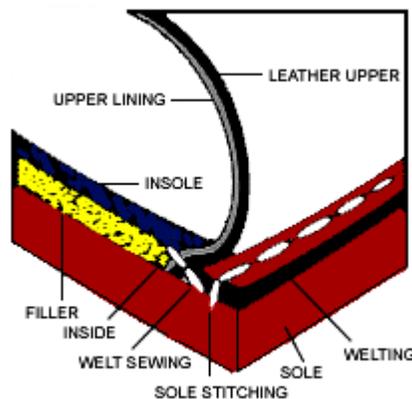
Forefoot: The area of foot between the ball and the toes.

Foxing: A strip of rubber joining the upper and sole of a shoe. Typically found on canvas sneakers.

G

Girth: The circumference of a shoe last, as measured around the ball of the foot.

Goodyear Welt: a shoe construction, in which the upper and sole of the shoe are stitched together, resulting in greater durability. The resulting seam is visible and runs around the outside of the shoe, where the upper and outsole meet. The feature that distinguishes this construction from all other is the insole rib to which both the welt and upper are secured by a strong, flexible stitch. The Goodyear welt construction is unique in the position of its two seams in the shoe bottom. There is a hidden seam holding together the welt, the upper, the lining and the insole, which, in cross section, is almost horizontal in position. This is stitched with a Goodyear Welt machine.



The outsole is then attached by means of a lockstitch sole stitching machine. This seam consists of heavy needle and bobbin threads which are drawn up tightly into the welt and sole.

Gore: An elastic panel stitched into either side of a shoe's vamp in order to make it more comfortable and easier to put on and take off.

H

Heel: "Heel" can refer to both the rear, padded area of the underside of the foot, as well as the solid part of a shoe that supports the heel cup. The standard measure for heel heights is as follows: an 8/8 (low heel) is 1" high; a 16/8 (medium heel) is 2" high; and a 24/8 (high heel) is 3" high.

Types of shoe heels include:

Louis or French - Features a curved back; ranges in height from 16/8 to 24/8.

Baby Louis - The same shape as a Louis heel, but a 12/8 or shorter.

Built Heel - Created from layers of leather or fiber with contrasting tones.

Continental - A higher heel with a slightly curved back and flat front.

Cuban - A thick, stacked heel with little or no curvature and tapered at the bottom; usually medium in height.

Stacked - Similar to the built heel, but typically can be created from synthetic and leather materials. Often found on spectator shoes.

Wedge - A heel that is as wide as the shoe itself and follows the shoe's contour from toe to heel. May be of any height.

Heel Counter: Counters provide support and help the upper wrap around the foot. They also help protect the heel from impact.

Heel Breast: The forward-facing side of the heel.

Heel Height: Heel height is measured on a vertical line at the breast of the heel, from the bottom surface of the sole where it meets the heel, to the floor. Heel height is measured in increments of 1/8th inches, so an 8/8 heel is one inch high.

Heel Seat: The part of the shoe directly below where the heel of the foot rests. Also where the sole and the heel are joined together.

Hidden Gore: An elastic panel at the front of a shoe that is covered by the shoe's tongue. Provides added comfort.

I

Injection Molded Construction: A type of sole unit construction created by injecting melted PVC or a similar material into the sole mold. Injection molded construction is an efficient way to mass-produce footwear.

Inseam: The hidden seam of a welted shoe holding together the welt, upper, lining and insole.

Inseaming: The stitching together of the welt, upper, lining and insole with a heavy durable thread.

Inseaming thread: We often sell the following products: Poly Inseaming thread Cat #D111802 Color #30001 - Tex 600, white, Polyester; or Cat #D111803 Color #35907 - Tex 600, black, Polyester.

Insole: The part of the shoe that the foot rests upon, usually cushioned

Insole Rib: The part of the Insole that is used when stitching a Goodyear Welt.

Instep: The area of the foot between the toes and the ankle, or the top front part of a shoe

L

Laces: A strip of material strung through the eyelets of a shoe in order to pull the shoe closed and adjust its girth.

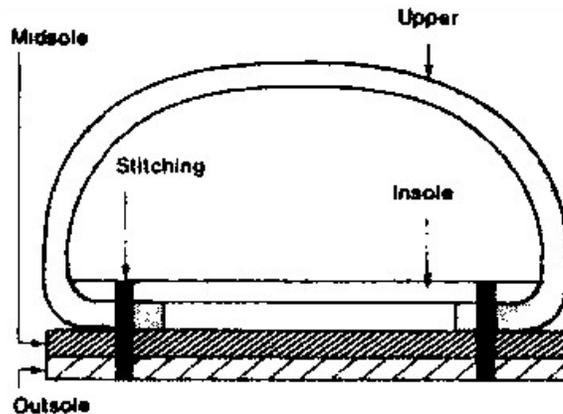
Last: A metal, wood or plastic form used to create the shape of a shoe.

Lasting: The process of pulling and shaping a shoe on a last. This can be done by pulling and tacking the upper to the last or by string lasting.

Lift: One of the several layers of leather or leather-board used to make a heel.

Lining: The material inside a shoe. Literally, the "lining" on the inside of the shoe or boot. Synthetic liners such as Cambrelle® offer lightweight, quick-drying comfort and resist mildew. Leather liners are extremely durable and cooler to wear, but take longer to dry. Waterproof-breathable Gore-Tex® fabric is either built into boots between the liners and uppers, or is bonded to other fabrics. Gore-Tex® increases water-resistance but may feel hot against your foot.

Littleway Lasting: In the stitchdown construction, the sole stitching appears on the foot side of the insole and on the outsole bottom. The seam may sometimes be hidden in a groove on the sole's bottom to minimize abrasion of the stitching. The machine that does this stitching is very specialized and requires a special Littleway bobbin. Littleway thread: NA70206/30001 - #346, white Nylon or NA74230/56033, #346, black, Nylon.



Lug Sole: A sole with a heavy rubber sole

Lycra/Neoprene: A blend of stretch fabric and neoprene rubber, ideal for a waterproof and sporty soft lining

M

Mid-sole: The part of the shoe between the very bottom and where the foot rests. The midsole is a cushioning layer between the outsole and the upper. Various rubber and foam compounds are used for shock absorption. Generally, heavier-weight materials will be firmer and more durable.

Moc Toe: A type of toe design with a seam and stitching details, originally seen in moccasins

Monk Strap: A type of shoe designed like an oxford, but with a strap closure across the instep rather than a lace up front closure

N

Negative Heel: Popular in comfort footwear, a type of footbed with a lowered heel area designed for more natural foot placement

O

Outsole: The very bottom of the shoe, the part that contacts the ground

Overlay: Detailing on a shoe made by layering material on top of other material

P

Perforation: A pattern of small holes punched or bored into the trim of a shoe, for the purpose of decoration or ventilation.

Pinked: Detailing characterized by a saw-tooth edge applied for decoration

Piping: A decorative, narrow strip of leather or synthetic that follows the seam of a shoe

Pitch: The angle of the back part of the heel where it meets the sole, compared to the front part of the heel where it meets the sole. On a high-heeled shoe the pitch should be at a large angle, in order to stabilize the heel.

Polyurethane: A type of manmade material that can be made to have the look and feel of leather

PU: The commonly used abbreviation for polyurethane

Polyvinyl Chloride (PVC): A semi-rigid plastic material, often used in heel counters and outsoles for added support.

Post sewing machine: A special sewing machine having a small raised working area to allow for easier fitting and stitching on partially closed uppers.

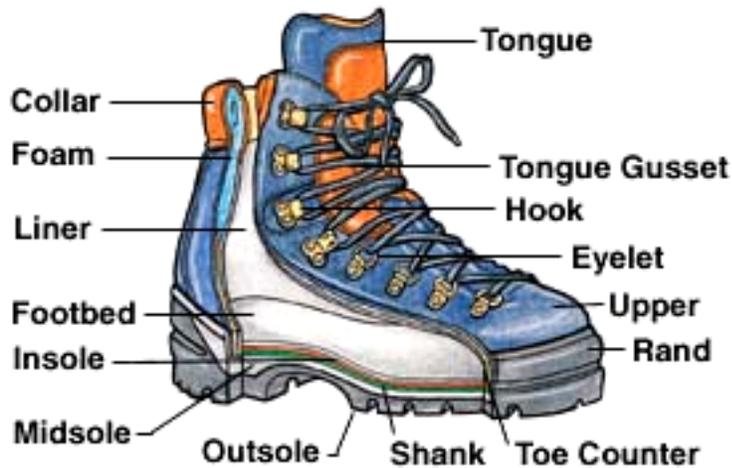
Q

Quarter Panel: The sides of the shoe from the heel to the toe

Quarter Lining: The lining of the rear part of a shoe, typically made from leather or fabric.

R

Rand: Thin rubber bindings that run around the junction of the upper and sole and part way up the boot. Rands add to a boot's overall water-proofing and protect the upper from abrasion.



Rim: The part of the shoe where the foot enters. Another term for collar or topline.

Rocker: The curvature of the sole from the heel to the toe of a boot to facilitate walking.

Ruched: A type of detailing characterized by gathered or pleated material with stitching accents

S

Scalloped: A type of detailing characterized by round wavy edges

Scree collar: Lightly padded cuff at the top of the upper that keeps out debris.

Sculpted Heel: A type of high heel molded in one piece, usually out of high-impact plastic

Shaft Height: The measurement of the shaft of the boot. Measurement is from the inside seam where instep and sole meet to the top of the boot.

Shank: a strip or plate in the sole that adds rigidity and support. Full-length shanks offer additional torsional rigidity and protection.

Shoe Sizes: The variation between full sizes is one-third of an inch, while the difference between half sizes and full sizes is one-sixth of an inch. This system of sizes is based on a decree made by Edward in 1324.

Silicone: A slippery polymeric material used to waterproof shoes.

Siped: A type of outsole with narrow grooves or channels, often found in boat shoes

Skiving: A trimming process used to reduce the thickness of the edges of the upper parts prior to joining them together. The skiving machine cuts a bevel at the edge of the material on the underside as the operator guides the material past a rapidly rotating razor-sharp knife.

Slip Lasting: Where the sock lining is stitched to the upper prior to inserting the "last" giving the upper a partial shaping. After the upper and sock lining have been stitched together, the platform cover is sewn to this unit. The sole is then attached and finished in the same way as other shoes using the cement attaching process.

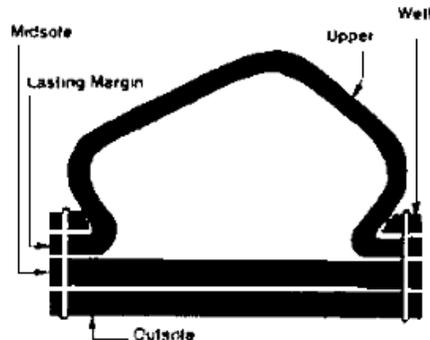
Sock-liner: A sock liner is the insole in the interior of the shoe that the foot rests on.

Sole: Another word for outsole, the bottom part of the shoe

Stacked Heel: A heel that has horizontal lines, indicating that it is made up of stacked layers of leather, or a heel with that appearance

Steel Toes: Steel toes are most frequently found in industrial-style footwear that is meant to prevent injury in the workplace. Steel toes are tested by the A.N.S.I (American National Standard Institute) for their ability to maintain a minimum clearance when compressed by different weights.

Stitch down Lasting:



Straight Lasted: A type of last used to create a very straight shoe that helps to prevent severe pronation.

Strike plate: Many lighter boots use a strike plate or protection plate to protect against sharp trail debris and provide torsional support. This can be in the toe between the upper and the lining.

String Lasting: The process of serging a string or tape to the lower edge of the upper so once the upper is placed on the "last", the string can be pulled tight helping to form the upper on the "last" prior to bottoming operations. We typically sell DA70230/30001 - Ludlow LP1508 #11 (10 ply) Polyester for the string used in this operation. The serging thread used for this operation can be a less expensive spun or corespun thread construction (T-60 Perma Core® or T-60 Perma Spun®).

T

Tassel: A rope and knot ornament found on the vamp of a loafer or moccasin

Thermoplastic Rubber (T.P.R.): A plastic material used by many manufacturers in the injection molding process.

Thermoplastic Urethane (T.P.U.): A plastic material that gives support through the mid-foot or medial side of a running shoe.

Throat: The main opening of a shoe extending from the vamp to the ankle.

Tip: An additional piece of leather covering the toe of a shoe. May be in several different shapes or patterns. Also know as a Cap.

Toe Ridge: A horizontal ridge added into the footbed of some sandals to anchor and provide support and cushioning for the toes

Tongue: Strip of leather or other material sewn into the vamp of the shoe extending to the main opening. Not only provide padding for the top of the foot, but gusseted tongues keep out grit and debris between the sock and liner. Asymmetric tongues add support and comfort.

Top line – The opening in the upper through which the foot enters. To reinforce the top line, an adhesive-coated fabric tape is often applied to the upper near the top edge.

Tread: Describing the design of a shoe's sole

Turf Cleats: Permanent or removable plastic or rubber cleats on athletic shoes

U

Unit Bottom: A single shoe bottom made from a mold of rubber or plastic. It includes the sole, platform heel or wedge.

Upper: The part of the shoe that covers the top part of the foot, from heel to toe.

V

Vamp: The front center part of a shoe's upper

Vibram: A type of durable, non-slip, outsole typically found on hiking boots. Vibram is a registered trademark of Vibram S.P.A.

Vinyl: Short for polyvinyl chloride (P.V.C.), vinyl is a shiny plastic often used for coating shoes.

Vulcanized Rubber: Rubber that has been converted from its crude state to one of durability and strength.

Vulcanizing: The process where a thermoplastic or rubber sole is joined to the upper using heat.

W

Welt: A strip of leather sewn between the insole and the outsole to create a greater durability.

Width: The width of a shoe is typically measured in letters (AAA, AA, A, B, C, D, E, EEE, EEEE) and refers to the width of the shoe last as measured at the ball of the foot. Widths are defined in one-sixths of an inch.

Wedge Heel: A heel which extends from the back of the shoe to the ball of the shoe, following its contour.