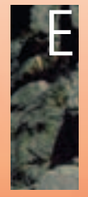
Take a Hike!



Ever since Bill Clinton redefined what sex is or is not, then further complicated the statement by questioning "that depends on what you mean by 'is'", I get very nervous when I have to define a word like Hiking. It gets even more difficult when one tries to define footwear used in hiking, which is one of the world's most popular leisure time activities.

Hiking may be an easy dictionary activity to define as a long walk over natural outdoor terrain. But it becomes more difficult in terms of footwear when one has to specify what one means by a long walk and exactly over what type of terrain. All the following terms are used to specify outdoor footwear: mountaineering, trekking, Alpine hiking, backpacking, rugged boots, sports boots, hiking sandals, trail hiking, cross hiking, day hiking, or simply just plain old hiking. If there's a bit of a cross over in these categories, I'm sure you can understand why. There may be some confusion in defining the category but quality materials have always been the keys to success in promoting serious outdoor footwear.

There are some clear performance differences in all categories of hiking boots as well as some obvious similarities. The complete hiking category, if one may be so bold as to categorise it, was traditionally founded in the mountainous regions of Europe, such as the Alps, where farmers required a sturdy shoe when tending their cattle or sheep in the high pastures, or when a trip to the nearest village meant at least a three to four hour hike. In those days the average hiking boot weighed approximately three pounds (1.361kg). It was made with 2-3 millimetre thick leather, plus possibly a softer leather lining, made either by Norwegian welt or Goodyear welted construction. The sole would have consisted of a wooden midsole with a thick rubber lugged outsole with heel, as originally designed by Vitale Bramani (the founder of Vibram soles) in Italy.

Moving On

Well, obviously we've come a long way from that form of footwear - right? Well, not really, that's the area of hiking we would call mountaineering today. The look or design traditionally still is a flap-over-vamp or French tongue lacing system with metal hooks and D-rings. Add a few modern materials such as Gore-Tex for waterproofing and 3M's Thinsulate or DuPont's Thermolite for insulation and *voila!* you have the modern rugged mountaineering boot. Strap one onto a wooden plank and you have the first ski boot too!

Hiking boots still come in different upper heights from 9 inch, 8 inch high-cuts to three-quarter height or mid-cut (as it is more popularly called) and Oxford or low cut. Hiking boots come in various weights as well as heights. The heavier boot is usually used for longer distances and rougher terrain such as would be experienced in backpacking or trekking. In these pursuits support for the foot and protection from sharp rocks is important. Leather uppers are still the most popular but quite often 600, 800 or 1200 Denier nylons such as Cordura and nylon mesh are used to lighten the boot and give more ventilation and comfort to the wearer. Waterproofing is still a major concern for the hiker. Either you are walking through water or it's pouring down on you from above. Gore-Tex, or similar technology such as the new Dri-Lex waterproof membrane, is used extensively in hiking boots. It is effective technology and carries with it the reputation of added value for the manufacturer. W.L. Gore has really done a great job in marketing its innovative patented waterproof membrane. In footwear the company still monitors the construction and design of the boot in which its membrane is placed and it even checks the factory production to make sure its product is sealed properly to ensure a dry fitting boot.

Terminally defined

While we're on the subject, water repellency, water resistance or waterproofing is a major value added feature in hiking boots. It's important to know the difference between the three terms, particularly if you know your boots are going to be subjected to a high degree of water penetration. 'Water repellent' usually refers only to the material itself or outer coating, so it is the least protective of the three industry phrases, as it does not refer to the shoe construction itself. For example, an upper material may be completely water repellent but when it is stitched it may allow water to enter through a seam or hole. 'Water resistant' usually indicates that not only are the materials water repellent but that the construction and stitching has been treated or coated to stop water from entering, at least to a degree. 'Waterproofing' or even better 'Guaranteed Waterproof' is the highest industry standard indicating that extensive testing and 'proofing' has taken place to make sure water does not enter the boot under normal wet conditions. Depending on the construction used - welted, stitchdown, cemented, vulcanised or injected - there are different methods and treatments used to insure dryness in hiking boots. A waterproof membrane can be added in the form of a bootie to most constructions. Worthen Industries, from the USA, has introduced a new sealing technology called PermaSeal. The patented process provides an exceptionally high degree of assured waterproofing by sealing stitch holes and seams in the upper or between upper and midsole. This process, depending on the construction, may eliminate the need for a waterproof membrane bootie or double lasting.

Brasher's Supalite Traveller Boot marks a return to lightweight performance.

Rigorous testing of both materials and the finished boot is essential before the manufacturer can assure the correct degree of waterproofing has been achieved.

The 'Maeser' flex test conducted on upper materials under dynamic conditions simulates water penetration resistance under normal wear conditions. There are several finished boot tests conducted under laboratory conditions, normally conducted in a tank partially filled with water. The Nikwax water resistance testing device is widely accepted as the industry standard for testing the whole shoe.

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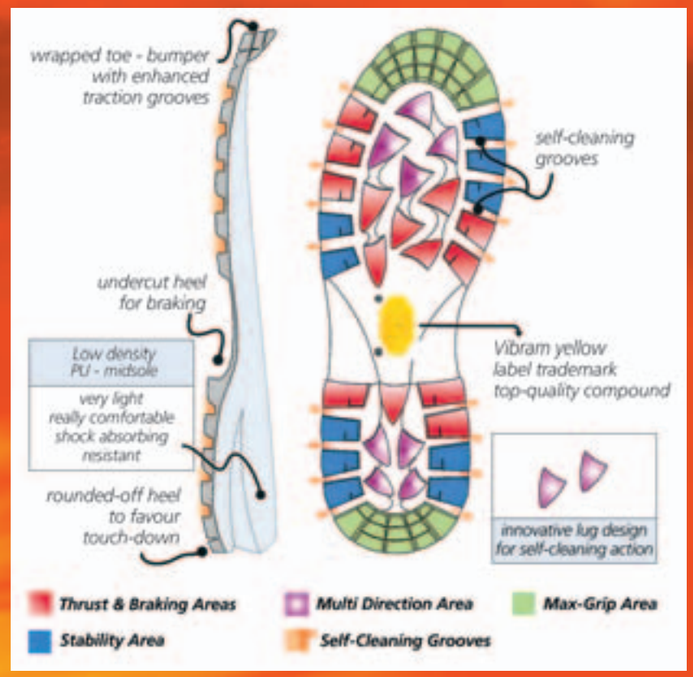
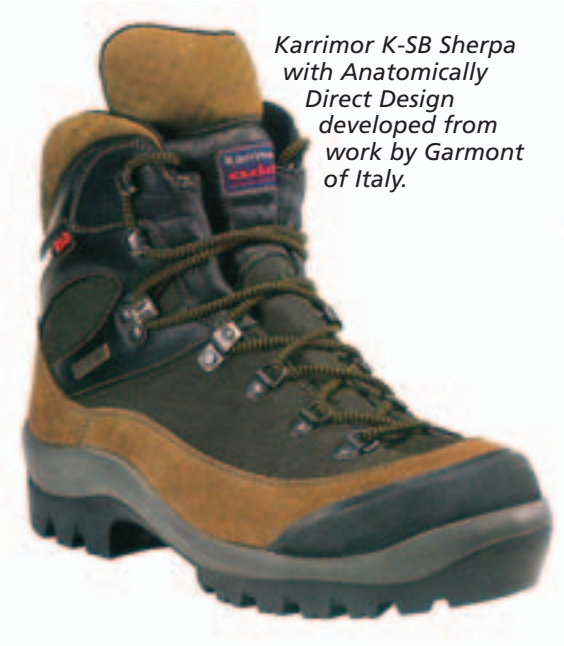


Made with low density polyurethane Vibram's Winkler outsole provides high traction in a variety of terrains.



Karrimor K-SB Sherpa with Anatomically Direct Design developed from work by Garmont of Italy.

Site construction

To find the ultimate solution to wet feet, the industry has taken another more radical approach. For trail running or hiking through deep water the hiking sandal has been developed. True, it is not as protective as a shoe or boot but in warmer climes under very wet conditions it is an option to allow the shoe and foot to be completely soaked, letting the water through the sandal and allowing the sandal and foot to dry naturally. Neoprene rubber is a common component in this new hiking category.

Constructions have changed from welted to mostly cemented or injected bottoms in the more modern hiking boots worn today. Welted footwear is still available from companies such as Dunhams in the USA and many traditional European boot makers but cement and direct injected soling is predominant. It is lighter, requires less labour to bottom the boot and is consequently much cheaper to produce. Midsoles have followed the athletic shoe revolution of the nineteen seventies and eighties into EVA and PU single or multi-density premoulded units. They are usually a touch firmer than midsoles used in other performance categories such as running or basketball due to the fact that hiking is normally undertaken on softer, more natural surfaces rather than flat, hard surfaces.

Outsoles have not changed as radically as midsoling materials. Carbon SBR rubber is still regarded as the more durable and offers the best traction for the serious hiker. Outsoles have become much more contoured in recent years with the wrap-up toe and heel bumper almost essential features, as well as contoured inside heels and radialed lateral and medial support cupping on the sides. As rubber compounds have improved it has become popular to reduce the base thickness of the outsole to reduce weight. The traditional lugged outsole as popularised by Vibram has become almost generic in design with lug thickness approximately five millimetres in depth. The important outsole qualities in a hiking boot are grip, support, flex, protection and traction. Wedge units have become increasingly common but, as in golf, another traditional sport, the outside heel is still popular especially when serious climbing is required. A steel or stiff polymer shank in the midfoot is used in the construction to assure proper foot support and torsional rigidity.

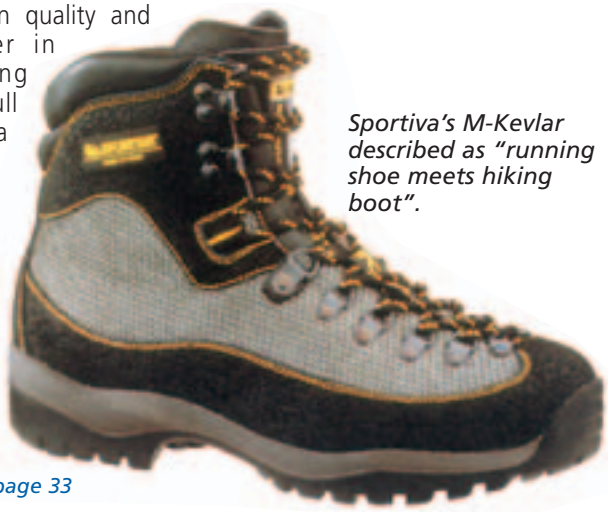
One new material has been introduced recently as an outsole material - Kevlar as protection against the penetration of sharp rocks. It also adds stability to the outsole compound.

Evolution

As in other performance areas of athletic footwear, a constant evolution is taking place in hiking footwear. True, it is subtle rather than radical, but slowly more progressive brands such as Adidas and Nike have influenced the hiking category. Sleeker designs are much more in evidence in today's marketplace mainly due to the athletic influence. One of the latest 'spin offs' within the hiking footwear grouping is the sports boot, which is really a rugged version of a stable running shoe. Either in a mid-cut or low-cut version, even more traditional brands such as Timberland now have an extensive semi-athletic boot range they call Multi Sport. This lighter, more flexible and sturdier version of a running shoe is perfect for urban hiking or even trail running. Synthetic leather uppers with mesh or nylon panels are reinforced with additional stability features and perhaps a Gore-Tex waterproof lining with a gusset or bellows tongue is added to make the shoe particularly suitable for more rugged or extreme terrain.

Tera's Mehari all-terrain sandal with continuous webbing from fore-foot to heel.

Upper materials used in the manufacturing of hiking footwear vary considerably, not so much in type but in quality and treatment. Leather in better grade hiking boots is usually full grain and may have a waxy or oil tanned finish to repel water. For a greater degree of water resistance, full grain leather may be tanned completely through with hydrophobic oils, which is about as waterproof as one can make natural leather. page 33



Sportiva's M-Kevlar described as "running shoe meets hiking boot".

This is achieved using special fluorochemicals and/or resins that coat the leather fibres while still allowing water vapour to pass through the leather. Silicone impregnated nubuck is also popular for its soft finish and water-resistant qualities. Split leather is used in less expensive boots and may be urethane coated.

Synthetic upper materials such as urethane or vinyl are increasingly used in hiking footwear because they are intrinsically waterproof and do not need to be treated. Other materials such as fabrics and poromerics usually have to be coated to achieve a degree of water repellency.

The lining material is always a feature of good quality hiking footwear. Brand names such as Dri-Lex, Cambrelle, and Drynamic from Millennium are all state-of-the-art wicking liners that offer the wearer a dryer, more comfortable hiking experience.

Material features

Unlike other athletic categories such as in running, where bio-mechanical features are the main selling point, hiking seems to rely on materials as the key to selling success. Occasionally, a biomechanical feature is introduced such as air cushioning by Nike, torsional rigidity by Adidas or a diffusion plate recently tried by Timberland but it does not seem to have the same impact as a wickable liner, a waterproofing membrane or a new insulating material for cold weather boots. If you want to be a global leader in hiking footwear it would appear you have to do it one step at a time. This is serious footwear for serious outdoor performance. There are no substitutes for quality materials in this category. Look-alikes and non-performing high fashion imitations are quickly told by the consumer to Take a Hike!

Mel Cheskin

New Balance's M0 751 BT. A rugged supportive shoe designed to meet the performance needs of the outdoor sports enthusiast.