

Running-shoe companies spend millions on research and development, and most of their designs, materials, and technologies make shoes better and more protective. Here's a brief guide to help you understand what the technologies do and which ones you need:

Center of pressure: A concave area in the outsole of the rearfoot that helps absorb shock and stabilize the rearfoot on impact.

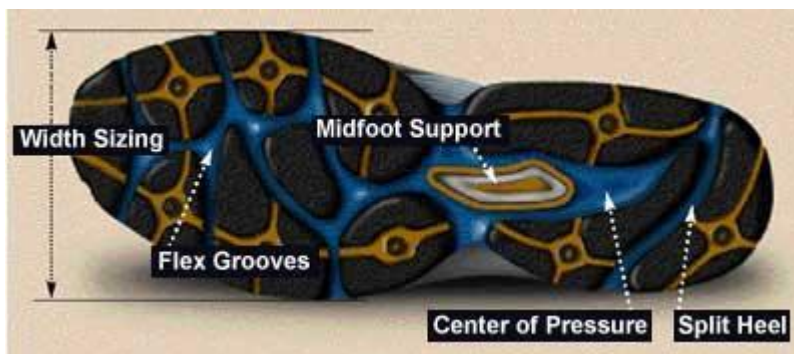
You need it if: You require added rearfoot stability.

External heel counter: A plastic device that wraps around the rearfoot and stabilizes it. This reduces overpronation, increases rearfoot control, and maintains the integrity of the heel counter.

You need it if: You're a severe overpronator (your feet roll inward excessively after heelstrike) and/or a heavy runner who breaks down heel counters quickly.

Flex grooves: Deep channels cut into the outsole of the forefoot to promote greater flexibility at toe-off and a smoother ride.

You need them if: You're a fast runner who appreciates a smooth heel-to-toe transition.



Split heel (or decoupled rearfoot): A deep groove in the rearfoot of the outsole that separates the outer side of the heel at footstrike to slow the rate of pronation.

You need it if: You overpronate and/or want a smoother heel-to-toe transition.

Stability post: A device molded into the sidewall of the midsole to promote greater foot stability. Known by a variety of trade names such as Diagonal Rollbar (Brooks),

Graphite Rollbar (New Balance), Footbridge (Nike), and Support Bridge (Reebok).

You need it if: You overpronate or need a shoe that reduces side-to-side foot motion and increases rearfoot control and support.

Midfoot support: A device that supports the foot under the arch and allows the shoe to flex properly. Found primarily in shoes with two-piece outsoles. Without a midfoot support device, these shoes tend to flex in the midfoot rather than the forefoot. Known by a variety of trade names such as Torsion Bar (Adidas), Trusstic (Asics), DRB Accel (Brooks), Wave (Mizuno), Stability Web (New Balance), Midfoot Support Bridge (Reebok), and TRB (Saucony).

You need it if: You like shoes with two-piece outsoles, and want midfoot support and proper forefoot flexibility. Some forefoot strikers don't need a shoe with a midfoot support. Extra midfoot support isn't necessary in conventional, one-piece outsoles.

Two-density midsole: The use of two different densities of midsole foam, with a firmer density on the medial (inner) side of the shoe to reduce pronation. The firmer density is usually a darker color, and can extend from the rearfoot to the midfoot, or occasionally the full length of the medial side.

You need it if: Your feet overpronate. A second density midsole foam will stabilize your feet and reduce excessive inward roll.

Width sizing: Offering more than one width size for each shoe length. Most shoes come in just one width, which works fine for most runners. But foot widths vary considerably, and some runners need more width options to get a proper, supportive fit. New Balance makes most of its shoes in four widths for men and three for women. Other companies, including Asics, Adidas, Brooks, and Nike, are now offering some shoes in more than one width.

You need it if: You have an exceptionally wide or narrow foot, and have difficulty finding a shoe that fits well.