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SOME CUSTOM ALTERNATIVES TO POLYURETHANE FOAM

"THESE BOARDS ARE BUILT FOR PERFORMANCE. IF YOU CAN'T GET UP IN THE POCKET, YOU WILL BE MISSING OUT ON A LOT OF WHAT THIS BOARD CAN DO FOR YOU."—JASON WEATHERLY, SURF MARKETING MANAGER FOR SALOMON. GREG BROWNING, ABOVE, ON A SALOMON S-CORE BOARD. PHOTO: AARON CHECKWOOD.

In the wake of the Clark Foam shutdown many surfers are vowing to become a little more aware of just what goes into their next custom surfboard. Whether motivated by environmental beliefs or just the desire to push materials beyond the boundaries they've been in for nearly 40 years, there's plenty for even the weekend warrior to know and understand. So we've compiled a list of the various options for a custom-shaped surfboard core. The following alternatives are all suitable options for an experienced shaper, but each one has its own strengths and weaknesses.

EXPANDED POLYSTYRENE (EPS OR BEADED FOAM)

This is often referred to as "beer cooler" or "bubble gum" foam—take a bunch of foam beads and mash them together into the shape you want. Jeff Johnston states, "The whole reason people left beaded foam years back was because it wasn't fused well—it absorbed water and delaminated. This is preventable using high heat and hydraulic pressure." Companies like Marko are cranking out a very high grade EPS beaded foam that Jeff has used to make some custom, high-performance boards in the 4 to 4.5-pound range for the likes of Mick Fanning, Andy Irons and Marcelo Nunes that are stronger than a 5.5-pound polyurethane board.

Strength:

—When formed with adequate heat and pressure, this lightweight core material is the basis of some of today's highest performing boards.
—Shells adhere well to both polyester resin and epoxy.
—Easy to shape.
—Beaded foam is also recyclable—unused and trimmed pieces can be ground up and reused.

Weakness:

—When made with inadequate heat or pressure, this foam can have too many air pockets (space around the beads), which are havens for water. Water + heat = expansion = delamination.

EXTRUDED POLYSTYRENE (CLOSED CELL FOAM)

Javier Huarcaya, current owner of XTR, tells us, "Extruded polystyrene is a closed cell type of foam—it will absorb less than 1% water if the foam is exposed because there is no spacing between cells. If it's any indication, Patagonia went from EPS to using only extruded closed cell foam in their boards."

Strength:

—Speed plus a flexibility that follows the shape of the wave.
—Thinner boards.
—Lighter and stronger—better compression and tensile strength.
—Increased performance.
—Don't need to fix dings right away—peace of mind on a surf trip.
—Durability 40-50% more than a standard polyurethane board.
—Extra weight and/or strength can be added in the lamination stage if desired.

Weakness:

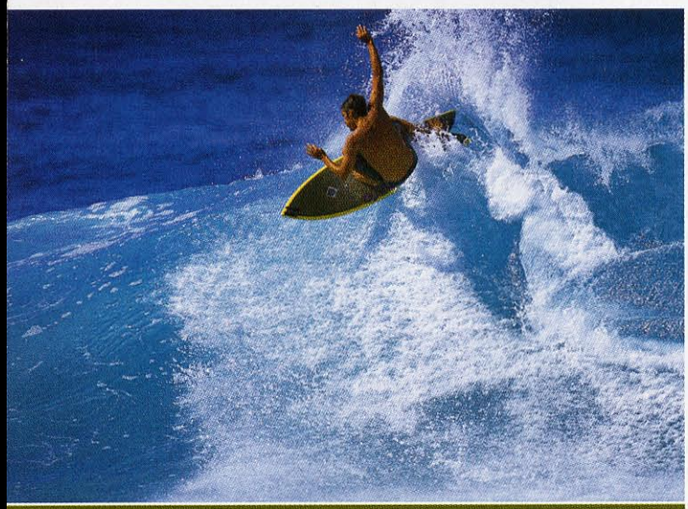
—Limited number of shapers. XTR doesn't sell individual blanks—they license their technology.
—Temperature limit is about 165 degrees.
—Stronger foam is different to shape—it requires special techniques.
—Must be glassed with epoxy. Boards without "thermovents" require heavy scarring to get epoxy skin to adhere well, therefore less likely to get a high sheen.
—The foam can shear within itself due to high temperature or heavy use—resembles delamination. XTR's patent-pending "thermoventing" makes serious strides in resolving this.
—The flex difference will be more noticed by experienced surfers.
—More expensive. Used to be $150 more—but now the gap is down to $50.

S-CORE/BLUE FOAM

Developed by the ski and snowboard company Salomon, S-Core is their exclusive layered, high-performance blank. Salomon starts with blue foam, an extruded polystyrene closed cell foam with a density unique to Salomon. The foam comes in sheets 7mm thick that they laminate with layers of polycarbonate epoxy resin to hold the rocker. Jason Weatherly, Surf Marketing Manager for Salomon, told us, "These boards are built for performance. If you can't get up in the pocket, you will be missing out on a lot of what this board can do for you."

Strength:

—Great reflex—it feels alive. The top moves and the bottom holds firm to keep up the planing speed.
—Engineered from the inside out on a carbon frame.
—Flex patterns can be controlled, and custom ordered, so highly responsive.
—The bottoms are carbon—very stiff and the tops are made of e-cloth fiberglass.
—Uses three stringers, each 1.5 inches thick.
—Membrane valve on the back can release air or moisture.



ALTERNATIVE TECHNOLOGY, CONVENTIONAL RIPPING. RASTA. PHOTO: JEFF DIVINE.

Weakness:
—They are not unbreakable.
—Pricey: $700-900.
—Most designs are suited for intermediate and expert surfers (i.e., not beginners).
—Limited shapers & board designs.
—More complex design means more things can go wrong.

EXPANDED POLYPROPYLENE (EPP) FOAM

Also known as Polypro, EPP is part of the packing material family, and is used in Surflite surfboards. How EPP is used is like a skin wrapped around a hard core. Jeff Johnston: "Imagine a snowboard wrapped in foam, then coated with urethane. The strength of the board is in its core."

Strength:
—Weight to strength is considerably stronger than regular polyester boards.
—Better memory which makes it exciting to ride.
—Better compression strength—not as likely to ding or dent on the deck.
—The board is somewhat soft, yet is faster in the water—releases faster and throws you while being safe.
—Its durability and buoyancy make it great for beginners and intermediate surfers.
—This is a molded process, so you can get exact duplicates of a board you owned before. Great for consistency.

Weakness:
—The fact that it is a one-off product—it can take six weeks to two months to get the board you want if not in stock.
—Tends to tear—you can puncture it with a pencil.
—Handles blunt force well—but not sharp points (like a pencil or gravel).
—Expensive—they are high-end boards.

WOOD

Balsa and cactus cores are making a comeback in niche circles, as is redwood for collectors.

Strength:
—Balsa is still highly preferred by many when used for longboards and guns. San Diego shaper Tim Bessell claims they're "like surfing on a Cadillac. The strength to weight ratio is awesome—which means it rides well and it's hard to break."
—They all look beautiful, and will get you noticed.

Weakness:
—There's a limited supply of each.
—Not a viable formula for light, high-performance shortboards.
—While balsa is relatively easy to shape, cactus and redwood are very difficult.
—Redwood is more often used for wall-hanger boards than ridden ones.