

IMPORTANT SPA INFORMATION

Spa Construction

Today most major brands of hot tubs are what is called "**Full-Foam, Acrylic**" spas. Most are also using wood 2 x 4's (**see note below**) to make their spa frames. Full-foam refers to the fact that the manufacturer is spraying polyurethane foam in the space between the cabinet & the spa shell. This expands & hardens as it cures to fill this space. The shell is usually acrylic as one benefit of acrylic is a complete rainbow of color options.

Important to know

When I first wrote this several years ago, the use of 2 x 4's was common. Increasingly though we are finding manufacturers (even some major, big names) using 2 x 3's, even 2 x 2's in their spa's frames. When 2 spas, that look similar, have significantly different prices (and warranties), there is a reason - probably many! This may be one. Have them take the cabinet skirting off so that you can see how their hot tub is built.

Note: Soft wood lumber is always approx. a 1/2' smaller than the "nominal" size; so, a 2 x 2 is actually 1 1/2" x 1 1/2". That is supposed to hold well over a ton of water & you?

Spa Shells

Most manufacturers use acrylic in making their spa shells. Two major companies, **Aristech** and **Lucite**, supply the raw acrylic sheets. It is vacuum formed in a heated oven to form the spa shell. The best manufacturers will then "rigidize" their spa shells. Unfortunately, more than a few brands do not rigidize their shells.

What's best?

- Acrylic is available as a single sheet or a 2-layer laminate. As a laminate, the 2nd layer is ABS plastic. The laminate is much stronger. Of course, better manufacturers, including **Bullfrog & Clearwater Spas, use the Acrylic/ABS laminate.**
 - By the way, both the highly polished spa shells & those that look like stone are acrylic.
- Rigidizing does what it sounds like - it makes the shell much stronger & is clearly best.
 - The older process is to use fiberglass to rigidize a shell. Many still use fiberglass, but fiberglass has toxic resins which are released into the air. Fiberglass also does not bond well to acrylic, which can cause blisters to develop.
 - The most advanced rigidizing process uses **Isotec®** as a rigidizer. Isotec® is stronger than fiberglass, releases no toxic fumes, and bonds very well to acrylic. **Both Bullfrog & Clearwater Spas rigidize their shells with Isotec®.**

Important to know

Two other materials are used to a limited degree to make spa shells.

An older shell material generically called "thermoplastic" (technically, OAS or Olefin Acrylonitrile-Styrene) was once used by many spa manufacturers. Today, only 1 major brand continues to use thermoplastic for their shells. However, their thermoplastic is a thin sheet, available only in white and

not rigidized. Their shell is supported only by a 2 x 4 frame & polyurethane foam. Despite this construction, they are not inexpensive hot tubs!

A handful of manufacturers specialize in low-end, roto-molded spas and make their entire spa with polypropylene. Polypropylene pellets are melted and injected into a mold which is then spun. Centrifugal force pushes the molten polypropylene into the mold. These spas give little hydrotherapy massage benefit as they have only a few jets and small pumps.

Insulation

Though many people will tell you differently, there are several effective ways to insulate your spa. "Full-foam" is certainly one of them, but so is partial foam, as well as a well-insulated cabinet & insulated floor. And frankly, here in Texas with our moderate climate, it's not the issue as say in Chicago or North Dakota.

Important to know

Full-foam does insulate well but it has a major disadvantage. It's the fact that ***all your plumbing is buried in that foam***. And that foam has another purpose. With most brands it's also a support for the spa shell, so it's very hard. As you might imagine, repairing a leak in a full-foam spa is difficult & expensive.

You also have 2,000 - 4,000 lbs. of water in your spa. Over time the foam can compress, putting extreme stresses on your shell. This is one of the major reasons for cracks in spa shells that are not supported as we discuss below (Spa Frames).

Partially foamed spas obviously have less issue with leak repairs, but it's still a major job, if its hard foam, to fix a leak.

Spa Frames

Most spa manufacturers, from the cheapest to the most expensive, use wood frames as partial support for their spa shells. Most, though not all, will use pressure-treated wood for the base of their spa frames, but rarely above the base. However, **neither Bullfrog nor Clearwater use any wood in their spas**. Bullfrog uses cast resin "Z-beams" for their spa structure. Clearwater supports their spa shells with 6" PVC pillars. **What's best?**

- Wood will expand & contract when exposed to moisture & temperature changes. Plastic, whether in a Z-Beam or PVC pillar, does not expand & contract with moisture & temperature, thereby providing much better support for your spa shell.
 - Carpenter ants & termites obviously eat wood. Even pressure-treated wood loses its resistance to their attacks over time.
 - Not using wood, pressure-treated or not, is clearly best.
- Most spa manufacturers provide no warranty at all for their spa structure which is in part supporting their spa shells. **Bullfrog Spas gives you a lifetime warranty on their EnduraFrame[®]** while **Clearwater offers a 20-year spa structure warranty**. We think these prove the point.

Important to know

A few manufacturers make steel spa frames and often make this a major selling point. You will hear their steel is galvanized or "Powder Coated", but they then drill holes through it and bolt their frames together making rust likely a few years "down the road". One of these manufacturers even insulates with "recycled denim" and that is right next to the steel frame. We think using plastic (cast resin or PVC supports) makes more sense.

Equipment

This is pretty straight-forward. The largest & oldest manufacturer of Control Packs (the brains of your spa) is [Balboa](#). The two largest spa pump manufacturers are Waterway and [Gecko / Aquaflow](#). Equipment from these 3 manufacturers is readily available both during and long after your warranty expires. The same cannot be said of "Proprietary" brands. Bullfrog, Marquis and Clearwater Spas use only Balboa, Waterway, and Gecko/Aquaflow equipment.

What's best?

- As long as your spa manufacturer is still in business, their warranty should cover their equipment. However, several spa manufacturers have gone bankrupt in recent years. Many used their "Proprietary Brands" of equipment. It is now difficult to repair these spas because the equipment is poor quality and difficult to find.
- Warranties vary greatly. Please visit our Buying Guides and download the "[**Hot Tub Warranty Comparisons**](#)".

Warranties

Certainly, we would all agree that the longer your warranty, and the fewer exceptions, the better. We have compared the warranties for all hot tub brands available in Austin. Please visit our Buying Guides and download the "[**Hot Tub Warranty Comparisons**](#)" to see who has the BEST warranties.

Important to know

The Federal Trade Commission (FTC) requires that warranties be made available to you before the purchase of a product.

Price

In the hot tub business price is not a good indicator of quality. You can buy a well-built spa for a reasonably low price, though it will be a basic spa. And a cheap spa with lots of "bling" means the spa itself is a [**really**](#) cheap spa!

Unfortunately, you can also spend a lot of money on a spa that is not well built; but it is flashy. These manufacturers are trying to entice with what you see, but it's what you don't see that is much more important.

Important to know

Should you believe companies that claim to sell hot tubs at "Wholesale Prices"? The short answer is "No". True Wholesale Prices are what dealers pay spa manufacturers. If the dealer was really selling spas at Wholesale Prices they would be out of business in a month! This really amounts to False Advertising.

Be sure to purchase a spa built with the best features we discuss above. In the long-run ***buying the best is always less expensive!*** You may pay a bit more, but your hot tub will last much longer and, in time, will cost much less!