



INTERPLASTIC

HISTORY

CASE

Restorative Therapy from ThermoSpas®



For many of us, a hot tub is a key to better health. ThermoSpas, the largest hot tub retailer in the country, has a multitude of designs and options to ease a number of health-related conditions including arthritis, stress, sleep problems, diabetes, sports and muscle injuries, and lower back pain.

When ThermoSpas was founded in 1983, they began selling through a national network of spa dealers. Unsatisfied with their growth and knowing their products' true features and benefits were not being realized by consumers, Andy Tournas, Sole Proprietor and President of ThermoSpas, Inc., made a big change. In 1995, he began to sell directly to the consumer. Over the past ten years, the company has grown 1,000%. Sales have expanded to make them an international company.

"The dealer wants you to buy what is on their floor or in storage," says Pat Graham, COO, ThermoSpas. "We don't have to do that. In fact, we know our customers are much better served by not doing that."

Today, more than eighty ThermoSpas salespeople, working with pre-qualified

leads, visit potential customers in their homes to help customers choose the spa and features that are just right for them. "We have about twelve molds with a number of different packages for each mold," explains Graham. "They can choose from an economy to an elite package that varies the amount of jets, colors, skirting and custom seat depth. Having the ability to work directly with the customer and having the ability to take that information and build a mold in response to their needs is a critical advancement we feel we have over other spa manufacturers."

"Each spa is custom made," explains Mike Fabiani, ThermoSpas' Director of Manufacturing. "When a spa goes through our factory, it has the customer's name on it right from the beginning. It is not a number. We have a series of features the customer can choose from but oftentimes we'll get requests for jets in a particular location or a different pump or ancillary features that may not be standard. We try to be as flexible as possible and we work with our engineering group to make sure what the consumer ultimately gets meets their expectations."

The Best Shell in the Industry

In their never-ending quest to build the best products, and to meet EPA regulations for lower VOC emissions, ThermoSpas re-engineered their management team and beefed up their technical staff. A key player, Brant Selb, was hired as ThermoSpas' Production Manager.

"Focus groups helped us develop the right product ideas," explains Fabiani. "Our mold-making and fiberglass department leadership has over 60 years of experience. The right technical staff brought it all together."

"We'd been manufacturing our own shells since 1996, but Brant's challenge was to make the best spa shell in the industry," relates Graham. "We want our consumers to get the best of the best."

Selb says his hands-on background in composites manufacturing helped him quickly discern which combination of products would propel ThermoSpas toward their goal. "With an acrylic-bonded surface, the primary challenge is achieving a good bond between the

shell and the resin to eliminate the possibility of de-lamination. In our industry, having a satisfactory blister/osmotic barrier is another critical element. Interplastic Corporation's CoREZYN® vinyl ester resin gives us that. It has excellent bonding characteristics, superior physicals over isophthalics or orthophthalics, and its ability to resist blistering can't be beaten. In addition, it has predictable gel and cure properties, and it is easy for our production staff to use." Interplastic laboratories formulated a vinyl ester to precisely meet ThermoSpas' manufacturing needs and to satisfy their VOC requirements.

ThermoSpas uses no fillers – the resins are all used in their neat forms to maintain their integrity and produce what Selb says is the best shell in the industry. "We are proud of the fact that since we've used the CoREZYN vinyl ester, we've had zero failures," states Selb.

The Right Products. The Right Process.

The acrylic shell forms the protective surface and provides the decorative finish. Lucite® and Aristech® brands of sheeting are both used to give ThermoSpas' customers the broadest color palette selection.

The vacuum-formed shell is removed from its mold and put onto a holding fixture since it has little green strength. Next it is reinforced with chopped glass and CoREZYN vinyl ester resin using Fluid Impingement Technology guns to keep overspray and emissions down. The layer is rolled out and allowed to cure.

A layer of DCPD resin and more glass follows to achieve a typical 5/16-inch total laminate thickness.

The finished shell goes to a drilling operation where the holes for the jet assemblies are made. In an 8-foot by 8-foot spa, there are 10 to 170 jets with 300 gallons of water at 104°F/40°C. Thriving in that environment, plus adding the chemicals, really tells you the strength of the composite – it absolutely can't sag, warp or blister.

Then the spa is plumbed and inserted into a cabinet frame. The spa doesn't have any support underneath; there is no foam fill under the shell in the frame. "We insulate the frame and re-circulate the water's heat to keep the cabinet warm," continues Selb. "We found it to be more energy efficient. It was another engineering challenge we overcame to benefit our customers."

Next, the electrical components go on. The electrical components are certified at the manufacturer, like all their supplied materials are, to ensure a closed loop in quality control between supplier and manufacturer. Then the electrical system goes through a water test twice – by different testers - under full load and under stationary load. The electrical system is tested a third time and then the spa goes into final inspection, where it gets another thorough check to make sure there is absolutely nothing wrong cosmetically.

Spas are paneled with either extruded, thermoformed boards or natural cedar. Spas live in a hostile environment and Fabiani says the no-maintenance, thermoformed cabinets are nearly always chosen over the natural cedar. Durability is tremendously improved, and fading due to UV exposure is reduced with inhibitors. ThermoSpas warrants the acrylic shell for ten years and the structure is warranted for twenty years.



"An independent panel of health professionals and people with arthritis favorably reviewed the Healing Spa as easy to use," states Graham. "This foundation encourages the development of products that allow for ease of use by everyone, including people with arthritis who may have pain and limited movement. We are pleased to take the leadership position and be first to help people who receive such tremendous benefits from spa therapy. Receiving this therapy in the privacy and comfort of their homes is the icing on the cake."

The foundation's panel provided input in the design and development from beginning to end. The Healing Spa hot tub features specially-designed warm water therapy jets that target joints commonly affected by arthritis, as well as a unique hot tub design that is easy for people with limited mobility to use. Features include special entry/exit systems, button-touch control system, reclined seating, a child seat for children with arthritis, air valves that can be maneuvered with the palm of a hand, and wrist rests.

Comfort is More Than Water Temperature

Recently the company sought and received the Arthritis Foundation's "Ease of Use" commendation for their Healing Spa™. This is the first time a hot tub has ever received this commendation.



CoREZYN®
INTERPLASTIC CORPORATION
Thermoset Resins Division

1225 Willow Lake Blvd
St. Paul MN 55110-5145
Ph 651.481.6860 • Fx 651.481.9836
www.interplastic.com