

## Barefoot Fitness Brings Wellness Home in a Large Package

**Market Segments:** Recreation

**Composite Application:** Vacuumed-formed acrylic and fiberglass-reinforced polymer

**Resin:** Altek<sup>®</sup> C949 polyester and Altek<sup>®</sup> H100 vinyl ester

**Manufacturing Process:** Hand lay up

**Specifications:** 2,000-gallon tub (19' x 7.5' x 4.33')

Large-scale, technically precise applications call for AOC ingenuity. The Bossetti combination spa and hot tub from Barefoot Fitness Spas is a 2,000-gallon tub with seating for up to five adults. Features include 37 stainless-steel spa jets, 6 adjustable-flow swim jets, flow fountains and a waterfall. Named after an exotic Argentine waterfall, the spa offers a variety of options—from a family relaxation session to resistance exercises that are easy on the joints.

Hawkeye Manufacturing's skilled workforce uses AOC materials technology and technical support to ensure the quality and durability of this masterpiece of modern design. "With a unit this large, we had to be right the first time," declared Casey Murray, Vice President for Hawkeye Manufacturing. "The unit's size makes it difficult—and more expensive—to transport and install. Any issues in the field would create an enormous cost."

### The Hawkeye Manufacturing process

Hawkeye Manufacturing starts with a sheet of acrylic that is heated and vacuum-formed into the shape of the spa's smooth, seamless uni-liner. After mastering the technique for forming the large, complex Bossetti liner, the next challenge was developing a protocol for the fiber-



Side View



Top View

reinforced polymer (FRP) structural composite back-up.

According to Murray, the major concerns for the composite manufacturing step were:

- Precisely controlling the composite thickness variations that are needed for the complex liner,
- Controlling the exothermic heat generated during composite cure to prevent temperature spikes that could distort the liner shape, and
- Ensuring an extremely strong adhesion between the composite and liner.

### **AOC technology and support**

Murray said Hawkeye Manufacturing found the right solutions with help from AOC Sales Representative Berk Pleasants. “Berk has been our ‘go-to’ person for composites technology for about twenty years. We ran AOC’s recommendations by the acrylic supplier and received confirmation that the composite and acrylic liner were compatible.”

The first step for the back-up composite is the application of a skin coat consisting of chopped glass fibers and high performance Altek® H100 vinyl ester. This technique is similar to that used in boat building and serves the same purpose, to prevent moisture from reaching and affecting the integrity of the thicker composite structure. The vinyl ester also provides excellent adhesion between the composite and acrylic. To finish the back-up laminate, Hawkeye technicians apply chopped fiber in Altek C949 polyester.

“This spa is larger than anything we have ever produced before,” Murray stated. “The consistency of AOC resins and outstanding AOC technical support were essential to helping us reach this milestone.”

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*Casey Murray,  
Vice President for Hawkeye Manufacturing*



*Barefoot Fitness spas provide low-impact aerobic and resistance exercise as well as swimming, therapy and relaxation.*

### **About Hawkeye Manufacturing**

With corporate offices in Richmond, Virginia, USA, Hawkeye Manufacturing Inc. is the largest spa producer in the Eastern United States. Hawkeye Manufacturing’s waste reduction and recycling policies earned recognition from the State of Virginia Department of Environment Quality. The company’s product development and quality control standards earned a Five-Star “Best of Class” rating for industry media leader PoolandSpa.com. For more information about Hawkeye Manufacturing products, phone 804-231-7727 e-mail [info@hawkeyemfg.com](mailto:info@hawkeyemfg.com) or go to [www.hawkeyemfg.com](http://www.hawkeyemfg.com).

### **About AOC**

AOC is a leading global supplier of resins, gel coats, colorants, additives and synergistic material systems for composites and cast polymers. AOC knows technology, lives quality and delivers service better than any other resin supplier. For more information, phone Leslie Beck at (901) 854-2318, e-mail [LBeck@AOC-Resins.com](mailto:LBeck@AOC-Resins.com) or go to [www.AOC-Resins.com](http://www.AOC-Resins.com).