

# Why Aqua Seal?

## When should you consider adding the Aqua Seal feature to your baptistery?

If you are planning on leaving water in your baptistery for extended periods of time.

## Why should your church spend additional money on the Piedmont Aqua Seal feature?

Your baptistery is made up of Gel Coat (the colored coating you see when you look into the tank), Polyester Resin (the liquid that bonds the glass fibers together and cures to a hardened state), Glass (small lightweight fibers that mix with the resin and gives strength to the tank) and some wood structural components that give the tank additional support. The Gel Coat, though it may be surprising, is not waterproof. When the Gel Coat is submerged in water for long periods of time it will begin absorbing water through small microscopic holes. At this point, due to the small size of the H<sub>2</sub>O molecule, water can easily penetrate the Gel Coat. Once the water has penetrated the Gel Coat, it will then reach the Polyester resin and start to absorb more quickly into the product through the glass fibers. At this time, the water begins to combine with other water-soluble materials in the resin. These water-soluble materials include phthalic acids, glycol, cobolts, mekp and styrene, which have not gone through full cure in the hardening process. Once this solution has formed, it cannot pass back through the Gel Coat as quickly due to the increased molecular size. As the water continues to penetrate the Gel Coat and mix with the solution it eventually builds up enough pressure to form a BLISTER.

## What does the Aqua Seal feature do to prevent blistering in the baptistry?

Piedmont Fiberglass adds an additional step to the manufacturing process called a Barrier Coat. This Barrier Coat is approximately an 18 – 10 mil coating that is sprayed on after the Gel Coat has cured but prior to the Polyester Resin and Glass being applied. This particular Coat is Vinyvester-based and ultimately prevents the water from penetrating into the glass laminate.

Some of this information came from a 1987 University of Rhode Island study by Thomas Rocket and Vincent Rose



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