



The Need to Recognize Quality Shotcrete Placement

By Bill Drakeley

In my 35 years in the pool industry, I've seen many changes take place, especially in shotcrete placement for pools. This mostly unregulated market suffered from the lack of design codes and construction specifications which guide most other built concrete environments. Yet, no longer an afterthought in home construction, pools now play a vital role in creating the 'home' space of protection and relaxation; something which became especially apparent during the COVID pandemic.

“Shotcrete swimming pool construction is unique and very demanding.”

– **ACI PRC-506.8-24: Shotcrete Use in Pool Construction – Guide**

As poor-quality installations — which were already eroding the credibility of shotcreted pool shells — were slowly dissipating, the pandemic instigated a surge in demand for pools as an oasis at home. This surge in demand for pools couldn't be fully supported by the existing network of shotcrete contractors, thus leading to a rise of inexperienced companies who tried to step in to meet demands. Unfortunately, with improper shotcrete knowledge and little regard for quality or proper placement practices, the resulting pools were poor, causing more harm than good for the concrete pool market and leaving many with nowhere to turn.

Watershape University (WU) was founded to provide everyone in the pool industry with educational resources to succeed. With this in mind, WU developed two credentials for those involved in shotcreted pool shells:

- Certified Watershape Shotcrete Specialist (CWSS) is a standard that validates a watershapers' understanding and general knowledge of shotcrete placement for pool applications.
- Certified Pool Shotcrete Inspector (CPSI) is a standard that validates a watershapers' understanding and general knowledge of shotcrete

placement for pool applications, while also acknowledging that the watershaper has the field experience to inspect pool projects during shotcrete placement for concrete watershapes.

These credentials provide guidance in recognizing quality shotcrete placement, which would be helpful for:

- Homeowners or municipalities – to know that their onsite pool contractor is performing shotcrete installation correctly.
- Pool builders – to know that a knowledgeable inspector is available to help and assist during construction rather than to judge or condemn after completion.

This education helps everyone in the industry by outlining what it takes to build a better shotcreted pool shell. When you do so, it lessens the need for an 'immediate fix' or a waterproofing product in a non-watertight pool shell. After all, there is no better time to identify and correct problems in shotcrete placement than when concrete is being placed. Correctly shotcreted pools should last 50 to 100 years, or more!

THE CREDENTIALS: A THREEFOLD APPROACH



1. Required WU certification: Certified Watershape Foreman (CWF) – complete the *Construction 2111: Essential Pool Construction* course and pass the corresponding exam. You must be an active CWF to earn the CWSS.
2. Complete the *Construction 2241: Quality Shotcrete Placement for Pools – Know It, Demand It* course (presented by ASA, hosted by WU) and pass the

corresponding exam. Completion of Steps 1 and 2 confers the CWSS certification. A candidate must obtain the CWSS to pursue the CPSI.

3. Apply for the CPSI in a two-part application.
 - a. Part One – a written application form that includes detailed descriptions of at least ten pool shotcrete placement projects completed over the course of the last five years, documenting the types of projects you were involved in and your role on the projects.
 - b. Part Two – upon successful submission and review of Part One, you will be sent a link to complete an online exam, which includes videos of shotcrete placement, to verify your ability to recognize quality shotcrete placement.
 - c. Successful completion of *both* parts of the application, *and* current/active CWF & CWSS credentials, confers the CPSI certification.

WU is the credentialing body. The credentials are active for a three-year period with renewal requirements of 24 continuing education units (CEs) with at least 12 CE specifically related to shotcrete. Those who pursue these credentials demonstrate an adherence to the ASA and WU recommended line of resources, including the ASA Pool Position Statements and ACI PRC-506.8-24: *Shotcrete Use in Pool Construction – Guide*. These credentials affirm your vested interest in and commitment to building quality

shotcrete pools that give owners the serviceable and durable concrete pool they expect and deserve.

ASA POOL POSITION STATEMENTS

- Compressive Strength Values of Pool Shotcrete
- Shotcrete Terminology
- Sustainability of Shotcrete in the Pool Industry
- Watertight Shotcrete for Swimming Pools
- Monolithic Shotcrete for Swimming Pools (No Cold Joints)
- Forming and Substrates in Pool Shotcrete
- Curing of Shotcrete for Swimming Pools
- Steel Reinforcement for Shotcreted Pools (featured on page 38)



William "Bill" Drakeley is an award-winning shotcrete technologist specializing in concrete science and construction, particularly shotcrete applications, techniques, and standards. He has thirty-plus years of experience in shotcrete installation, including waterfeature and geotech design and construction. He is a co-founder of Watershape University.