

Where We Came From and Where We Are Going

By Frank Townsend



Carl Akeley first developed the shotcrete process in 1907. The industry has evolved with over a century of technological advancements from pumps to nozzles, to admixtures, to new Type 1L cement, to remotely manipulated equipment, to acceptance in the larger infrastructure world. Many laid the groundwork for the growth of this industry: Larry Totten and Tony Federico out West; Lars Balck and Charles Hanskat from CROM; George Yogg, Patrick Bridger, and "Mr. Pool" Bill Drakeley in the Northeast; and the Alabama dynasty of Curt White, Bill Snow, Tony McDougal, and Tom Pirkle. It is now up to us to expand it further.

If you aren't aware of the benefits of shotcrete placement in lieu of form-and-pour, they are time, money, and carbon footprint. Shotcrete's reduction of formwork and time of construction results in significant cost savings. Sophisticated and complex concrete structures with intricate reinforcement details are now being constructed with shotcrete. Thick structural walls are being constructed using shotcrete as the final lining method and for foundation and boundary elements from NY to CA. This is the message that is true and that needs to be spread and proved by us all. From Superior Gunite to Thorcon, Coastal Gunite to Eastco, and everyone in between — carry the message and show what *right* looks like.

For successful shotcrete applications, contractors need relevant experience with shotcrete materials and mixture designs, equipment, and competent shotcrete crews. Rigorous quality control monitoring, inspection, and testing

should be provided by the owner. In addition, collaboration with the structural design engineer is also vitally important.. ACI Shotcrete Nozzleman Certification has obviously helped, but the ASA Qualified Contractor program offers an additional resource. This program provides another measure of quality control by prequalifying contractors for different levels of complexity on shotcrete applications, which could be a boon for engineers who are just not as familiar. Likewise, the new shotcrete inspector seminar (aka Quality Shotcret. – Know It When You See It) is not only a great resource to educate engineers and inspectors, but it also informs the industry on what *right* looks like. It is up to all of us to show them quality shotcrete applications as the standard it should be.

Recent research projects and field applications have demonstrated that properly constructed shotcrete structures can provide equal or better durability than traditional form-and-pour placement methods. Ongoing research and engineering projects will confirm the long-term durability of shotcrete. Durability aspects currently evaluated include chloride penetration, ionic migration, heat of hydration, and service life prediction and validation. So, things are moving in the right direction.

Our plan is to be the global resource for shotcrete and to educate the industry to "Know Quality Shotcrete When You See It." How we get there is the fun part. Currently ASA conducts dozens of presentations annually to construction companies, engineers, architects, owners, and students. Our current focus is on the students; we want to teach them about the value of shotcrete, so they have that knowledge

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