

Shotcrete to the Rescue!

By Bill Geers



Welcome to the 2025 Quarter 3 edition of *Shotcrete Magazine*, with a theme of "Shotcrete to the Rescue!" Shotcrete placement in structural projects (as an alternative to traditional cast-in-place concrete) has experienced significant growth in recent years. This trend can be attributed to the method's economic and environmental advantages,

including enhanced cost efficiency, reduced labor demands, accelerated construction timelines, and the potential to lower a project's carbon footprint.

Shotcrete placement can minimize or eliminate the need for cranes, boom pumps, and forms, enabling faster application compared to traditional form-and-pour concrete methods. In challenging terrains and areas requiring complex shapes, it serves as an alternative to conventional form-and-pour construction, resulting in cost savings. Here are several areas where shotcrete placement has now come to the rescue!

CUTTING COSTS IN STRUCTURAL RESTORATION

A city's history is reflected in its old buildings, which often deteriorate with age and exposure to the elements. Today, many historic structures — such as churches, monuments, smokestacks, and schools built from brick or stone — are restored using shotcrete placement.

SLOPE STABILIZATION AND UNDERGROUND CONSTRUCTION

Shotcreting places concrete to stabilize the ground during excavation and differs from traditional timber or steel shoring. The use of shotcrete placement to provide support to the ground, serving as temporary support in mines and more recently as permanent lining in civil tunnels and underground stations, is one of the most significant uses of shotcrete placement in the world today. With its flexibility, shotcreting provides ground stabilization and stress relief in challenging

terrain. In urban settings, it's commonly used for tunnels, stations, sewers, and side drifts, as shotcreters can reach difficult underground areas.

APPLICATION OF THE SHOTCRETE METHOD ON DAMS AND BRIDGES

Shotcrete placement is well-suited for sites that are elevated or difficult to access, where accuracy is crucial. It removes the necessity for conventional construction setups, even in environments surrounded by water or dense vegetation. A small, specialized team can efficiently apply, cut, finish, and cure multiple sections of a project. This approach offers significant advantages in congested or remote areas by reducing labor costs and limiting operational downtime.

Advancements in shotcrete technology, combined with improvements in education, training, and certification for shotcrete professionals, have expanded its use to a wider range of applications. ASA members' efforts have resulted in shotcreting being recognized as an approved placement method in the ACI 318 building code. Factors such as safety, adaptability, time efficiency, cost-effectiveness, and quality contribute to durable, economical, and sustainable project outcomes when using shotcrete placement. I hope that you enjoy this issue, and the innovative uses of shotcrete placement.

Please consider joining the American Shotcrete Association (ASA) to help us promote quality shotcrete placement in many new project applications like the ones mentioned above. ASA's

Outstanding Shotcrete Project Awards program is another easy and rather prominent way to promote! ASA will regularly highlight these projects in our presentations and shows where we exhibit, and the 2025 program is now accepting your company's entries for the great work you've been doing all year. See this issue's insider tips for submission secrets on page 56 as you consider your nomination(s) this year! The deadline is rapidly approaching on October 1st, 2025.

“Advancements in shotcrete technology, combined with improvements in education, training, and certification for shotcrete professionals, have expanded its use to a wider range of applications.”

– Bill Geers