

Overview

The ASA Contractor Qualification Program (CQP) is a straight-forward program that helps to establish a shotcrete contractor's qualifications by the ASA Contractor's Qualification Review committee*, whose members have extensive experience in successful shotcrete work. This qualification program provides a distinct service to the industry by assuring specifiers that self-performing shotcrete contractors reviewed here have a proven record for completion of successful projects of similar work and scope. This qualification program is based on the ASA Board position paper "Qualifications of the Shotcrete Construction Team". Contractors who have applied and were successfully reviewed through this program, earn the designation: ***ASA Qualified Shotcrete Contractor - Structural, Levels I or II (QSC – SI or SII)***, in the process approved. ASA actively promotes the CQP to specifiers to facilitate the recognition of self-performing shotcrete contractors who consistently place shotcrete with excellence and quality.

The Problem and the ASA Solution

A specifier needs to evaluate these checklist items before engaging a shotcrete contractor. However, many specifiers don't have sufficient knowledge of shotcrete as a construction process. Thus, the specifier may be hesitant to thoroughly evaluate the shotcrete contractor's equipment, crews, and resources. This may lead some specifiers to simply accept a contractor's submittal of experience without looking at it critically.

This program lets ASA do the heavy lifting for the specifier in evaluating this checklist of items that help to quantify a contractor's shotcrete experience. ASA has shotcrete experts (contractors, engineers, suppliers, and educators), who will review and verify contractor submittals in these areas. Members of the Contractor Qualification Committee (CQC) will also talk with the Contractor and key personnel to validate the application information, as well as verify the supplied project references.

ASA administers the Shotcrete Contractor Qualification as a review service for shotcrete contractors. The CQC reviews the Contractor Qualification (CQ) Application for contractor's seeking qualification. The Contractor must specify and submit documentation of completed projects to support the ASA QSC - Structural, either Level I or II, designation they are pursuing. Specifiers are encouraged to require the ASA QSC – SI or SII for their specific projects, selecting the appropriate process and level of qualification based on the difficulty of application and the company's proven track record for successful performance on completed projects.

Those who earn a designation through this program have demonstrated a commitment and knowledge of the business and the ability to produce quality shotcrete placement. ASA is pleased to provide this service to the industry and help continue to raise the bar for project owners, specifiers, and engineers to recognize capable self-performing shotcrete contractors.

Establishing the Contractor Qualification Committee (CQC)

The CQC is made up of ASA members with a mix of practice areas (pools, repair, heavy structural, soil support, etc.), and is representative of our membership – engineers, contractors, suppliers, owners, and educators. The ASA Executive Director or Technical Director will be a member of the committee. An impartial Review Group, with no conflicts of interest with the contractor application they are reviewing, will be assigned to each application. An assigned review group may be three or four members, including the Review Lead. The Review Lead is responsible for coordinating the review and documenting the group's decision(s).

The Review Process

ASA staff (or its consultants) will conduct an initial review of an application for completeness. If any portions appear incomplete or inaccurate the application will be returned to the applicant with notation on areas needing correction. After the initial staff review the assigned Review Group will also conduct a preliminary review for basic compliance with application requirements. After initial review of the supplied documentation the Review Group assigns Review Group members to contact the applicant and key personnel, plus the supplied project references, to verify the supplied information. If there is a concern with the validity of the supplied information, the group may request additional documentation or a site visit (at additional cost to the Contractor) to inspect facilities, equipment, and crew performance. After this evaluation, the Review Group makes a recommendation for the approval or disapproval of the level of qualification sought or a recommendation for their appropriate level of qualification. This recommendation is then submitted to the main CQC for comment and final approval. Once again, any members of the main CQC with a potential conflict of interest must abstain from commenting or disclose any conflicts with said contractor when commenting.

Qualifying Individual

The Qualifying Individual (QI) should be a representative from the company who has attended and successfully completed the ASA CQ seminar and passed the CQ Structural written exam. Designation of a QI is required for ASA's CQ program. This individual will be tied to the company's qualification. The QI should be knowledgeable about the Contractor's overall shotcrete operations. Should the QI leave the company, ASA shall be notified in writing within thirty days. The company qualification will be put on a probationary status until a replacement QI who has also attended the CQ seminar and successfully passed the CQ written exam is submitted and reviewed before qualification is reinstated. This QI should be available for a phone interview by the Review Group to further elaborate on details of the company's application.

Levels of Qualification

The ASA Contractor Qualification Program allows for two levels of structural qualification – the ASA QSC – SI or SII, in the process (Wet-Mix or Dry-Mix) sought. The Contractor must specify which level and process they wish to pursue, supplying documentation to confirm their work at this level. When applying for both processes, 15 projects of *each* process must be submitted for review. Each level is established not only by the type and scope of shotcrete work the Contractor has previously successfully executed, but also by the company's proven ability to have the support measures (i.e. crew, equipment, and financial means) in place to deliver consistent, quality shotcrete projects. The

Contractor will be evaluated on this level, subject to review and recommendations by the review group.

- QSC - SI (**Level I**) - is a company who has attended an ASA sponsored 1-day seminar on basic requirements for the shotcrete contractor and records the successful completion of at least fifteen projects in the last three years with documentation for their corresponding scope of projects and required company resources.
- QSC - SII (**Level II**) - is a company who meets all the requirements described for Level I and can document the successful completion of at least fifteen projects in the last five years that qualify as Level II projects as listed in this Program Policy.

Qualification Level descriptions

Shotcrete's flexibility and versatility allow its use on a wide variety of work. Shotcrete has found application in many diverse areas such as new buildings, foundations, repairs, pools, skate parks, ground support, tunnels and underground facilities, marine structures, domes, tanks, bridges, and architectural concrete. Thus, the type of project alone is not a good indicator of difficulty level. A combination of all the factors necessary to complete a project successfully may move a project into the Level II category, while portions of the work may be very straight forward. Submittal of project experience is up to the judgment of the applicant; however, the Review Group will make a final determination on its appropriate level during evaluation.

Further descriptions of Level I & II designations include:

Qualified, Shotcrete Contractor, Structural Level I (QSC - SI) projects: Characteristics of this type of project: _

Project Description Codes - Characteristics of this type of project:

- I-1. Sections 10" or less in thickness
- I-2. One curtain of reinforcing with #6 or smaller bars and non-contact lap splices with 2.5" separation or more
- I-3. Vertical heights up to 11'
- I-4. Stable soils, and no ground water or contractual environmental requirements
- I-5. No overhead work
- I-6. Volume of shotcrete 30 cy or less per project

Examples of this type of project:

- V-ditches and channels
- Temporary shoring
- Slope paving/stabilization
- Architectural overlays
- Small, limited repair and patching
- Skateparks

Qualified, Shotcrete Contractor, Structural Level II (QSC - SII) projects: Characteristics of this type of project:

Project Description Codes - Characteristics of this type of project:

- II-1. Sections greater than 10” in thickness
- II-2. Projects with reinforcing bars of #8 bars or larger in a complex geometry or congested layout
- II-3. Vertical heights over 11’ (requiring a 3-pass wall)
- II-4. Difficult access, dewatering, or environmental requirements
- II-5. Projects with overhead shooting
- II-6. Structures that require pre-construction mock-up panels per the applicable Building Code
- II-7. Sections that require water stops, large embeds, pipes or movement joints
- II-8. Projects that require scaffolding, man-lifts, confined space, or use of safety harnesses
- II-9. Sections that require two curtains of reinforcing or contact lap splices
- II-10. Pumping distance greater than 200’ horizontally or 25’ vertically
- II-11. Scheduling or trade coordination challenges
- II-12. Complex formwork, tight tolerances, and/or shapes

Examples of this type of project include:

- Structural concrete projects
- Seismic retrofitting
- Commercial or complex swimming pools or watershapes
- Structural repair and overlays
- Permanent shoring, and retaining walls
- Liquid-storage tanks
- Domes and other free-form concrete structural shells

All contractors pursuing qualification level I **must** have at least one ACI-Certified Shotcreter in the process they are pursuing. Those pursuing qualification level II **must** have at least two ACI-Certified Shotcreters in the process they are pursuing.

Additionally, the following **baseline** requirements differentiate the two levels:

Requirement	Level I	Level II
Projects Submitted: Time Frame	Within last 3 years	Within last 5 years
Project Variety	Ok not to have variety of work	Should have at least 3 types of projects
ACI Shotcreter Certification	One, and can be the owner	Two, and neither can be the owner
Minimum # of Crews	One	Two
Equipment – pumps/guns	Own at least One	Own more than One
Use Description Codes when describing projects (noted above)	Indicate all applicable codes & elaborate	<i>Must</i> include & elaborate on a minimum of 5 different characteristics (within codes from II-1 to II-10)

Alternate Qualifications – It is understood that projects vary in terms of complexity, size, and scope. The experience requirements contained in this Program Policy are meant to ensure that all ASA Qualified Shotcrete Contractors have completed sufficient work to be considered an experienced company after review by the CQC. A company who does not meet the strict “fifteen projects in three or five years” requirement but feels they can show equivalent experience, may submit documentation

for consideration by ASA. Such evidence must be marked as “Alternate Qualifications”, located at the end of the project list, and will be evaluated and considered at the discretion of ASA and its governing committees.

If the Applicant’s alternate qualifications are denied by the CQC, the applicant may request to appeal the decision by the Appeals procedure. Note that a determination of what qualifies as equivalent experience will rest with the CQC. If requested, the CQC will audit ASA’s Staff review to ensure that fair and equitable practice and procedures have been met.

Qualification References – reliable contact information for each project submitted must be available to the Review Team for phone interviews. Applicants must request permission from their contacts to be used as references on their application and inform the contacts that they may expect to be contacted by ASA’s Review Team.

Alternatively, project contacts could provide, at the time of Contractor’s application, a letter of reference covering the following points:

1. Confirm the approximate date the Contractor was on the project and the scope of work
2. The professionalism and diligence of the Contractor to provide quality shotcrete placement.
This may include items like:
 - a. Did they provide good communication on scheduling, site requirements, reinforcing placement, formwork, cleanup and disposal of waste material, curing and protection of the shotcrete?
 - b. Were their submittals or request for information (RFI) accurate and complete?
 - c. Did their field crew appear knowledgeable and work together as a team?
 - d. Did the Contractor properly answer any questions you had on the shotcrete placement?
3. The performance of the shotcrete placed on the project
 - a. Were there any problems before, during or after placement?
 - b. Were repairs needed before or after structure was placed in service?
 - c. Were all concerns addressed to your satisfaction?

This should be on their company’s letterhead, with a phone number or email where they may be reached in the event further clarification is required. Failure to reach your references may result in excluding the project from the Contractor’s application.

Experience and Company Capabilities Considered in the Qualification Review (M = mandatory)

Qualified Shotcrete Contractor - Structural Evaluation Checklist		
<input type="checkbox"/>	Minimum years of experience as a self-performing shotcrete contractor - 5 yrs for Level II or 3 yrs for Level I.	M
<input type="checkbox"/>	Physical office, shop or other business address	10
<input type="checkbox"/>	Contractor is a Sustaining Corporate or Corporate Member of the ASA	5
<input type="checkbox"/>	ACI Certified Shotcreter in the process and orientation qualification is sought	M
<input type="checkbox"/>	Participation in ASA’s one-day Shotcrete Contractor seminar and successful completion of the corresponding structural written exam by the company’s Qualifying Individual.	M
<input type="checkbox"/>	Certificate as a “Business in Good Standing” or equivalent (contractor’s license) from the state(s) that the company works in	M
<input type="checkbox"/>	Proof of Company Insurance in good standing, meeting all state minimum requirements. (Including but not limited General Liability, Workman’s Compensation)	M
<input type="checkbox"/>	Letter of bonding capacity from the Bonding Company or a Letter of Credit.	10
<input type="checkbox"/>	Contractor has disclosed any criminal or fraudulent ruling for shotcrete work against former or current company owners in 5-year period, if any.	M
<input type="checkbox"/>	Company Affiliations (ASA, ACI, AGC, ABC, etc.)	5
<input type="checkbox"/>	Proof of appropriate continuing educational session credits for construction support staff (safety, general superintendent, project managers, construction managers, etc.)	2
<input type="checkbox"/>	Hosted an ASA/ACI Shotcreter Certification session within the last 5 years	5
<input type="checkbox"/>	Shotcrete Contractor self-performs all shotcrete-related work and has provided an experience listing of minimum crew(s) to be used on the project (see additional list for the Shotcrete Field Team Qualifications)	20
<input type="checkbox"/>	Owns all necessary shotcrete specific equipment (pumps, guns, hoses, nozzles) to accomplish job-based qualification level. Shotcrete Contractor has submitted size and model for all Shotcrete equipment to be used – including full equipment backup in case of equipment breakdown.	5
<input type="checkbox"/>	Appropriate number of projects in the level and process sought, with shotcrete projects of similar size, scope and shotcrete process used (dry-mix or wet-mix) successfully completed over at least a 3 or 5-year period (per level pursued) with proper documentation and references	40
Note: 80 Points minimum required for Qualification (total of 102 available)		

Shotcrete Field Team Qualification Checklist	
<input type="checkbox"/>	Shotcrete Contractor has submitted names, positions and experience of field team members, including (some positions may be filled by one person): <ul style="list-style-type: none"> a. Project engineer, Project manager or Superintendent b. Shotcrete foreman c. Shotcreter (at least 1 ACI-certified shotcreter on the project) d. Gun or pump operator e. Assistant shotcreter/shotcreter trainee(s) f. Wireman g. Blowpipe/air lance controller h. Rodman or Finishers i. Mixerman j. Hose tenders
<input type="checkbox"/>	Project engineer, Project manager or Superintendent – minimum 3 years of relevant experience
<input type="checkbox"/>	Shotcrete Foreman – minimum 2 years of shotcrete experience
<input type="checkbox"/>	Shotcreter – Holds current ACI shotcreter certification appropriate for the process and orientation of work this application is seeking. Additionally, has completed at least one application/project as a shotcreter <i>for</i> the Shotcrete Contractor similar to if not for the projects listed in this submission.
<input type="checkbox"/>	Gunman or Pump Operator - should have at least one year of experience operating the owner’s equipment and be familiar with all manufacturer’s safety guides and operation
<input type="checkbox"/>	Assistant Shotcreter/Shotcreter Trainee – should have six months of experience in various shotcrete field operations that may include finishing, gun or pump operation, blowpipe/air lance control, and hose tending. When shooting, work must be under the direction of an ACI-Certified Shotcreter
<input type="checkbox"/>	Wireman – should have a minimum of one year of experience in setting grades and profiles on shotcrete work
<input type="checkbox"/>	Blowpipe/air lance controller – should have experience in finishing shotcrete and has proven successful manipulation of the blowpipe on previous jobs as directed by an ACI Certified Nozzlemaster, Shotcrete Foreman or Superintendent
<input type="checkbox"/>	Rodman or Finisher – has proven successful shotcrete finishing on previous shotcrete projects
<input type="checkbox"/>	Mixerman - should have a minimum of six months running the specific (or similar) mixing equipment listed in this application.

Program Implementation Details

QSC Code of Conduct – An ASA *Qualified Shotcrete Contractor - Structural* shall adhere to the following code of conduct:

As an ASA Qualified Shotcrete Contractor - Structural, we agree to ongoing compliance with the requirements and standards set forth in the ASA Shotcrete Contractor Qualification Program Description. We will not knowingly or purposefully violate any project specifications or requirements. We agree to maintain required insurance coverage, staff our projects with trained and certified personnel, and strive to produce a high-quality product in a safe and professional manner.

Failure to adhere to this code of conduct may result in disciplinary action which may include being placed on probation or losing ASA Qualified Shotcrete Contractor status. The QSC Code of Conduct shall be acknowledged in the submittal of the application.

Renewals – Qualifications are valid for a five (5) year period from the month in which qualification is approved. Contractors previously qualified under this program will receive notification of their eligibility to renew their qualification and a copy of their most recent application. Checklist items documenting 5 projects in the *last 5 years* (during the period of their qualification or most recent five (5) years, if qualification lapsed) shall be submitted for review by those seeking requalification at the same level as previously qualified. Contractors will also be asked to identify changes to the company since their initial or last application. (see renewal application for details: shotcrete.org/cq-renewal/) If a QSC - SI is applying to move up to a QSC - SII or add on another process/level, this constitutes a new application, see policy for details.

Compliance with Program Requirements - Compliance with the requirements of this program will be verified by a comprehensive review of the application documents, and verification by past and current clients regarding the quality of work performed.

By applying for qualification, the applicant agrees (a) that the ASA decisions concerning qualification, including but not limited to the decision of the CQC, shall be final and binding; (b) that the applicant will not institute legal action of any kind to challenge those decisions; (c) that neither the ASA nor its members, officers, employees or representatives (including but not limited to the members of the CQC) shall be subject to any claim for legal or equitable relief (including but not limited to money judgments and injunctive relief) arising out of those decisions; and, in any event, (d) that neither the ASA nor its members, officers, employees or representatives (including but not limited to the members of the CQC) shall be liable for consequential or incidental damages of any kind as a result of the ASA qualification program. By applying for qualification, the applicant further agrees that if it commences legal action in violation of this paragraph, it shall be responsible for paying all costs and expenses, including attorney fees, incurred by ASA and/or its members, officers, employees, or representatives in the course of defending that legal action.

Non-compliance – Companies deemed non-compliant with the provisions of this program following a review of documentation will receive written notification of the areas of deficiencies and areas of non-compliance. The company will be given ninety days to correct deficiencies. Failure to remedy the conditions in the ninety-day period will result in forfeiture of all fees and the company will be dropped

from further consideration in the program under the current application. The company may re-apply at any time by submitting a new application and paying the current fees.

Ongoing Program Requirements – ASA Qualified Shotcrete Contractors must maintain compliance with these program requirements on an on-going basis. Any evidence brought to the attention of ASA that indicates that an ASA Qualified Shotcrete Contractor is not continuing to comply or perform at the Level of Qualification conferred, may result in the company returning to probationary status for a maximum period of ninety-days subject to the provisions outlined in the public complaints and appeals sections. If a company is placed on probationary status, it must take corrective actions prescribed below under probationary status or it will forfeit all fees paid and the company will lose its qualification status.

Probationary Status - A company may be placed on probationary status for a maximum of ninety days from ASA receiving notification for any single event. A company may be placed on probationary status as a new applicant, loss of QI or for a noted deficiency as described in Ongoing Program Requirements. A company who fails to meet the conditions necessary for the removal from probationary status within the time allotted will forfeit all fees paid and lose their qualified status. A company that has its qualified status revoked must apply as a new applicant if it wishes to be reconsidered for qualification in the future. All outstanding fees due must be paid by an applicant prior to applying for reconsideration.

A company that is on probationary status as a new applicant or for a noted deficiency as notified by ASA, must successfully complete its qualification review within ninety days. A company that is placed on probationary status due to a subsequent deficiency must take the following actions within the times prescribed:

- Notify ASA in writing within thirty days of receipt of the notice of deficiency, regarding the company's intent to take corrective action. Failure to provide this notification within thirty days will result in forfeiture of all fees paid and the company will lose its qualification status.
- Complete all necessary corrective actions within the ninety-day probationary period. The company must provide necessary documentation as directed by ASA within this 90-day period.

A company that is on probationary status due to the loss of their QI, must submit the name of their QI replacement within thirty days and make plans for this individual to participate in the Shotcrete Contractor Education Seminar and take the written exam, if not previously completed. The company will then remain in probationary status until the completion of the new QI's seminar/exam requirements. Companies may consider sending more than one individual to the seminar and take the exam to have an alternate QI within the company for this reason.

Public Complaints

ASA will maintain a list of ASA Qualified Shotcrete Contractors available for review by the public on the ASA website. Complaints about an ASA Qualified Shotcrete Contractor will be recorded by ASA and, provided they meet the minimum requirements described herein, will be investigated to

determine if the ASA Qualified Shotcrete Contractor is failing to meet ongoing program requirements. For ASA to investigate complaints against an ASA Qualified Shotcrete Contractor, the complaint must be made in writing and must contain the following information with as much detail as possible:

- Qualified Shotcrete contractor's name
- Complainant's name and contact information (both phone and email)
- Specific project name and location if applicable
- Specific dates of violations if applicable
- Detailed description of the alleged violation(s) or program deficiencies
- Disclosure of any direct or indirect relationship the complainant may have to the Qualified Company
- Any communication efforts to resolve which were not satisfied.

If ASA determines that an investigation is warranted, it will contact the ASA Qualified Shotcrete Contractor for a response and will provide the identity of the complainant. The ASA CQC will assign a group of three committee members along with the ASA Executive Director to review the complaint. ASA may ask for verification of corrected deficiencies. If there is no evidence of actions taken by the Contractor to correct deficiencies ASA may place the ASA Qualified Shotcrete Contractor on probationary status, subject to the provisions listed in the Appeals section.

Appeals – All appeals to decisions made under this program must conform to the procedures outlined in this section. Appeals under this section are limited to disputes over interpretations of the requirements contained in this Program Description and/or an applicant's conformance with these requirements. Appeals under this section can only be made by an applicant or an ASA Qualified Shotcrete Contractor. All appeals must be made in writing per the procedures outlined herein and should clearly state that it is an appeal from an applicant or ASA Qualified Shotcrete Contractor.

A written appeal should be sent to ASA, notifying them of the intent to appeal and request a review. This notification is to be sent within thirty days of the event under appeal. ASA staff will respond to the company within thirty days of receipt of the notice with their decision regarding the appeal.

If this response is not accepted by the company, they may submit a request to ASA to have the appeal reviewed by the CQC. This request must include all prior documentation and correspondence including the initial appeal letter and the response. It is the appealing company's responsibility to provide all documentation and evidence.

Indemnification – In the event that any party asserts a claim for personal injury, property damage, economic loss or other damages against ASA and/or its members, officers, employees or representatives arising out of or relating to the acts or omissions of an ASA Qualified Shotcrete Contractor, the ASA Qualified Shotcrete Contractor shall, upon request, defend and indemnify ASA and/or its members, officers, employees or representatives and hold them harmless from all damages, judgments, costs, losses and expenses, including attorney fees, resulting from said claim.