

Tilt-Up Concrete Association

Company Certification Program

Policies and Procedures Manual



Tilt-Up Concrete Association

Promoting growth and achievement in tilt-up design, construction, and innovation for over twenty-five years

Founded in 1986, The Tilt-Up Concrete Association was created by a dedicated group of construction professionals interested in improving the quality and acceptance of tilt-up concrete construction.

Our mission is to expand and improve the use of tilt-up as the preferred building system by providing education and resources that enhance quality and performance.

Tilt-Up Concrete Association
c/o Company Certification Program
PO Box 204
Mount Vernon, IA 52314
(319) 895-6911

www.tilt-up.org/certification

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1. PURPOSE AND SCOPE

1.1 **Mission Statement**

The goal of the TCA Company Certification Program is to provide a universally accepted verification program for assuring the experience, quality, performance, and safety of tilt-up concrete panel producers.

1.2 **Background**

Site-cast tilt-up construction has been in use since the early 1900's and it continues to grow as a viable building solution because of its durability, energy efficiency, economy and speed. Tilt-up continues to spread its geographic presence and use in multiple building types; buildings and panels are increasing in size; and, new producers continue to enter the market. While the process is fundamentally simple, it requires planning and attention to detail with special emphasis on quality control and safety.

The rapid growth of the tilt-up method over the past sixty years in the construction market is a good indicator that the process can be successfully implemented in a safe and economical manner. The Tilt-Up Concrete Association (TCA) and the American Concrete Institute (ACI) previously teamed up to create a certification program for individuals involved in the industry. The company certification program, developed by TCA, builds on the success of the personnel certification program by introducing a comprehensive program of evaluating and certifying the producer companies that perform and manage this type of construction.

1.3 **Scope**

The certification program is designed to certify companies that manage the overall tilt-up construction process through a measured program. It is acknowledged that many companies and different trades are involved in the process, and this program does not attempt to certify each individual company or trade that may be used on a project; rather it is meant to certify the construction company that is ultimately responsible for the overall production, safety, and quality of the finished tilt-up concrete elements. The program puts the burden on the TCA Certified Company to hire responsible individuals and sub-contractors to ensure that the finished product is produced safely and in accordance with project specifications and industry standards. The program includes requirements for the certification of specific individuals and trades as one of the metrics of quality assurance.

2. ELIGIBILITY, COMPLIANCE, AND SUBMITTALS

2.1 **Eligibility**

Properly licensed and insured companies who attest that they meet the requirements contained in this section on a continual and ongoing basis are eligible to apply for certification under this program. Required submittals are identified in the following section (Submittals).

This certification program provides two levels of company certification – General Tilt-Up Contractor and Architectural Tilt-Up Contractor. The classifications recognize the type of tilt-up construction in which the company has experience.

- **General Tilt-up Contractor:** A company who complies with the certification requirements listed in this manual and is able to document successful completion of at least fifteen projects (or at least ten projects with at least 300 panels total) in the past five years.
- **Architectural Tilt-Up Contractor:** A company who meets all of the requirements of a general tilt-up contractor and who provides additional evidence of successful completion of at least four different specialty finishes identified here-in.

2.2 **Compliance With Program Requirements**

Compliance with the requirements of this program will be verified by a comprehensive review of the submitted documents, verification by past and current clients as to the quality of work performed, and an on-site company audit. The on-site audit will be conducted in accordance with the Phase III, Company Audit section of this policy manual.

Non-compliance. Companies deemed non-compliant after review of their submittals or site audit, or items of non-compliance brought to the attention of TCA and verified by reviewers, will be given written notice of the specific items that are out of compliance and will be given a period of ninety days to remedy the deficiency. If a return

site visit is required, the company must pay expenses of the auditor to return. Failure to remedy the conditions in the ninety day period could result in forfeiture of all fees and the company being dropped from the program. The company may re-apply at any time by submitting a new application and paying the current fees. Certified companies must maintain compliance with these program requirements on an on-going basis. Any evidence that is brought to the attention of the TCA that indicates that a Certified Company is not in compliance may result in the company being placed on probationary status for a maximum period of ninety days subject to appeals. If a company is placed on probationary status, it must take corrective actions prescribed or it will forfeit all fees paid and the company will lose its certified status.

3. SUBMITTALS

The submittal and approval process consists of three phases. Listed below are the required submittals for each phase of the process. All submittals shall be made electronically in pdf format. They shall be arranged according to the major section headings. An applicant may submit Phase I and Phase II simultaneously.

3.1 Phase I Submittal – General Information

The initial submittal is to include the following information:

- 3.1.1 Company Information
 - Company Name with Address, email, Telephone, Fax
 - Principal Place of Business
 - Other Company Locations/Subsidiaries
 - Date of Application
 - Contact Person for Application with email & Telephone

- 3.1.2 Company Contact Information for the following:
 - Company Officers
 - Safety Director
 - Project Managers
 - Superintendents

- 3.1.3 Type of Certification Sought
 - General Tilt-Up Contractor
 - Architectural Tilt-Up Contractor. In order to qualify for Architectural Certification, the candidate must include in the projects listed below, examples of at least 4 of the following finishes: Exposed Aggregate, Thin Brick, Curved Panels, Form Liners Integrated Color, Extensive Cast-in Patterns or Reveals, Other.

- 3.1.4 Application Fee (original application)
 - TCA Member Firm - \$3,000
 - Non TCA Member Firm - \$4500

- 3.1.5 List of projects with consultants, project and contact information - Candidate must have completed 15 projects, or 10 projects with a total of 300 panels in the past 5 years. For each completed project, list the following:
 - Project Name and Address
 - Completion Date
 - Number of Panels
 - Architect, Engineer, and Owner/Client
 - Color Photo(s) of Project
 - Finish (if applying for Architectural Tilt-Up Contractor)

- 3.1.6 List of ACI Certified Tilt-Up Personnel with Expiration Dates - Include copies of certificates.
 - Superintendents
 - Technicians

- 3.1.7 Letters of Reference - Six letters of reference on projects listed above. There shall be at least one letter from each of the following:

- Architect
 - Engineer
 - Owner
 - General Contractor (if applicant is a tilt-up subcontractor)
- 3.1.8 Safety Plan Information - Submit Table of Contents of company safety manual. The manual must cover the following as a minimum:
- Hazard Assessment
 - Safety Training and Meetings
 - Personal Safety Equipment
 - Fall Protection
 - Emergency Plan/Procedures
 - Limited Access Zones
 - Shoring and Bracing
 - Crane and Rigging Safety
 - Exposure to Hazardous Material
 - Enforcement/Discipline/Compliance
 - New Employee Orientation
 - On-Going Safety Initiatives
- 3.1.9 Competent Person Designation - Include the company statement for designating “competent person” as defined by OSHA (or other jurisdiction if outside the United States) who is responsible for safety on each project.
- List of those designated as such in your company.
- 3.9.10 Safety Metrics - The safety metrics are used to determine the efficacy of the applicants safety program. The goals are indicated in the respective metric. A number that does not meet the goals designated does not necessarily eliminate the firm from consideration, however, it will require greater documentation to assess the nature of non-compliance. Trends that indicate movement toward a safer working environment will be considered.
- Documented OSHA Incidents Rate for total recordable incidents based on incidents recorded in the OSHA 300 or 300a logs of less than 6.5 in each of the three previous the years computed as (Number of injuries and illnesses x 200,000)/Employee hours worked = Incident rate;
 - OSHA 300 and 300a forms for the past three years;
 - Work Experience Modifier averages for past three years. Applicant shall have a published Work Experience Modifier average of no greater than 1.1 over the past three years;
- 3.9.11 Foreign Countries - Companies outside the United States may provide evidence that is similar or equivalent to the rating systems listed above as long as they are utilized by the governing jurisdiction.
- 3.9.12 Insurance Coverage. A certified company shall be required to maintain and carry in force for the duration of the certification insurance coverage as follows:
- General Liability – A minimum of one million dollars (\$1,000,000 USD) combined single limit per occurrence for bodily injury, personal injury and property damage and a minimum of one million dollars (\$1,000,000 USD) completed operations provisions. Before a certification will be issued, the contractor shall furnish the Tilt-Up Concrete Association a Certificate of Insurance verifying such coverage.
 - Workers Compensation and Employer’s Liability – Worker’s Compensation as required by governing authority having jurisdiction. If the contractor is exempt from the Worker’s Compensation requirements, the contractor-applicant must submit a letter stating and explaining the exemption.
 - Proof of Insurance – The Certified Contractor must provide a certificate of insurance listing the Tilt-Up Concrete Association as the certificate holder and as an Additional Insured with respect to General Liability. The certificate of insurance shall list the certificate holder as follows:

Tilt-Up Concrete Association c/o Company Certification
 PO Box 204
 Mount Vernon, IA 52314

Prior to any reduction in coverage limits, or cancellation, the TCA must be given thirty (30) day advanced written notice by registered mail to the stated address of the certificate holder. An additional rider must be attached to the certificate of insurance that adds TCA as an additional insured.

3.2 Conditional Approval

Upon approval of the Phase I submittals, the applicant will be have Conditional Approval Status as a TCA Certified Contractor. Phase II information must be submitted within 90 days of notification of designation of Conditional Approval in order to maintain the status.

3.3 Phase II Submittal – Safety And Quality Control/Assurance

Phase II information shall be submitted within 90 days of approval of Phase I submittal. Phase II information may be submitted with Phase I. Quality assurance and safety documentation is to be retained for a period of at least three years from the date of project completion.

3.3.1 Safety Program - Applicant shall submit complete documentation of their safety program and safety manual. The program shall include detailed information from the table of contents (Phase I submittal). The submittal shall included examples of the following:

- Tool box talks
- Pre-erection meeting
- Other Periodic Safety Meetings
- Outlines and/or examples of programs or meetings demonstrating frequency, training, programs and orientation of new employees.
- Discipline and enforcement of safety

Included with the submittal should be examples of the method the company utilizes to document attendance by employees at the meetings.

Hazards. Submit examples of methods of determining, documenting, and mitigating job site hazards.

3.3.2 Qualified/Trained Personnel - Provide names, expiration dates, certifying agency, and evidence of certification for each individual in the areas identified in this section.

3.3.2.1 ACI Certified Supervisor/Technician (documentation part of Phase I submittal) - A Certified Company must employ at least one ACI Certified Supervisor (for Tilt-Up Subcontractor) or Technician (for General Contractor) at all times. The Certified Company is responsible for either directly employing these qualified personnel or for insuring that its subcontractors employ the required personnel. All subcontracts or purchase orders/agreements that cover the above noted scopes of work must include statements requiring the subcontractor or vendor to meet these requirements.

3.3.2.2 Placing and Finishing of Floor Slabs, Casting Beds, and Tilt-Up Panels - Concrete finishers shall have evidence of being trained and qualified. Certification as an ACI Certified Flatwork Finisher is one means of meeting evidence of proof required by this section.

Concrete boom pump operators shall have evidence of being trained and qualified. Certification as an ACPA Certified Pump Operator is one means of meeting evidence of proof required by this section.

3.3.2.3 Production and Erection of Tilt-Up Panels - At least one ACI Tilt-Up Certified Individual shall be on-site and either in direct control of the work being performed or is actually participating in the production and erection operations. Evidence of compliance will be verified during a review of project documentation or actual on-site observation.

3.3.2.4 Crane Operation - Crane operator(s) must have proof of training and other acceptable qualifications including:

- Training records and/or documentation of certification.
- At least one crane operator must be on-site who has a minimum of three years experience as a crane operator.

3.3.2.5 Riggers and Signalmen - Riggers and signalmen must have proof of training and other acceptable qualifications including training records and/or documentation of certification.

3.3.3 Quality Control/Quality Assurance - A Certified Company must address quality control and quality assurance on an ongoing basis for each Tilt-Up project performed in order to assure that project and industry standards are being met. A company must have a written quality control plan that includes on-site quality assurance procedures and a means for assigning responsibility for quality assurance to on-site personnel. At a minimum, the company must incorporate a system of on-site inspections and checklists that promote the safe construction of a quality product. In order to promote continual improvement, the company shall maintain records of its on-site quality assurance activities which should be reviewed by management to ensure that their quality control plans are being followed. Areas of improvement should be noted and addressed on an ongoing basis.

Records of on-site quality assurance inspections shall be maintained by the Certified Company for the duration of each project and for a period of three years from the date of completion of the project. These records may consist of check lists, procedures, drawings, or other visible, recordable and quantifiable processes or methods. Records shall include the name and company of the individual performing the reviews, inspections, testing or work. These records shall be made available during the on-site inspection and must include at least the following:

3.3.3.1 Panel Design/Engineering - All panels and structural components shall be designed by an licensed engineer. Provide evidence that a competent and experienced structural engineer has performed the work on the structures listed and that they are licensed in the locale which the building is constructed.

3.3.3.2 Bracing Design - Bracing design shall conform to TCA Bracing Guidelines as a minimum and shall include calculations of anchorage to the slab or other suitable engineered locations. Panel books supplied by the manufacturer or engineer responsible for bracing design shall be available for inspection.

3.3.3.3 Panel Fabrication/Erection/Testing

- Personnel – Qualified personnel responsible to oversee and manage the various tasks associated with site cast tilt-up construction.
- Drawings – Design of Panels for both in-place structural loads and lifting. Engineering data including any calculations and approved shop drawings is to be identifiable and available for each project. This information is to be maintained for future reference to resolve construction disputes and documentation. The EOR shall maintain such files/documents.
- Shop Drawings – Clear and complete shop drawings for production and erection of concrete elements. Shop drawings shall indicate:
 - Type, quality, and location of reinforcement
 - Type and position of all embed items
 - Panel identification and quantity
 - Surfaces requiring finishing
 - Comprehensive dimensions
 - Type and location of lifting/erection devices
 - Panel ultimate design and erection concrete strength minimums
- Concrete Materials, Finishes, and Mix Designs - Approved project concrete finish requirements, mix design information, and test results are to be kept on file; to be identifiable; and, available for each project, each variation in mix design, or each variation of finish. Concrete compressive strength shall be determined with ASTM C 31 or C1194 CSA or governing standard. Results from ASTM, CSA, or governing Standards, Certificates of Compliance are to be kept on file (cylinder breaks, beam breaks, slump tests, et. al.) Test cylinders and beams should be taken at the beginning and ending of each concrete load. They shall be stored with the panels affected in conditions identical to the panel concrete. Deviations from strength, slump, air content or other project specifications shall be notes and addressed as appropriate.
- Reinforcement - Mill test reports for materials shall be required of applicable suppliers.

System of identification shall be established to correlate particular materials to a given project. ASTM, CSA, or governing Standards, Certificates of Compliance are to be kept on file (reinforcing matts, bars, or fibers). Contractor shall record and provide method by which reinforcement position and placement is ensured.

- Embeds - The process for reviewing embed fastenings and placement techniques is verified prior to casting.
- Inserts - Inserts recommended by the supplier are to be used. Products from different suppliers are not to be mixed. Provide engineering, testing, and product information from the supplier or a third party testing company.
- Form Set-Up - Forms must be fabricated to maintain the tolerances during concrete placement. Forms should be checked for dimension tolerance variations immediately prior to casting. Changes involving block-outs, reveals, cast-in items, position and amount of reinforcing shall be approved by the Engineer of Record and documented.
- Concrete Placement - Plan for order of panel casting. Proper handling, placing, consolidation, finishing, and curing of concrete.
- Concrete Curing - The contractor shall ensure that the concrete panels are cured under industry approved standards. The process should be reviewed and accepted by the Owner and Engineer of Record.
- Erection - Plan for panel layout, order of erection and bracing. Plan shall include panel identification which coordinates erection to the lifting suppliers information.
- Special Items - Records of all product testing performed on specific projects. Theses include special inspections and any special design or performance testing.

3.3.3.4 Communications Plan - The contractor shall provide a written description of the method or systems by which information is communicated between the field, shop, consultants, and other members of the project team. Note: This can be done by demonstration during the site audit. Items to be covered in the communications plan include:

- Original drawings
- Changes Orders and Modifications
- Meeting notices, notes and attendance
- Project schedule
- Emergency Procedures
- Weather Emergencies

3.3.3.5 Site Operation and Materials Storage - Provide a plan or written description that defines operations on the project site. Items covered shall include:

- Access and positions of ready-mix trucks
- Access and position of concrete pumps or placement equipment
- Access and position of cranes
- Emergency vehicles
- Delivery of materials.

Plan should also indicate:

- Casting beds;
- Location and information regarding overhead and underground hazards and proposed mitigation;
- Soil mitigation requirements;
- Proposed storage locations for reinforcement and other materials, and;
- Other factors that could impact the operations.

A certified company must maintain proof of compliance with industry standards and project specifications on the tilt-up projects it completes. Proof of compliance submitted with the company's Phase I application my include either signed letters from a project owner's representative on past projects or signed project affidavit forms provided by the TCA. Proof of on-going compliance in subsequent years is to be made utilizing project affidavit forms provided by the TCA for this purpose.

The project affidavits are to be signed by an owner's representative and will attest that the TCA

Certified Company is in compliance with industry accepted standards and/or project specifications.

- 3.3.3.6 Company Organization - Provide a company organization chart with names, titles along and a description of the responsibilities of individuals listed on the chart.
- 3.3.3.7 Subcontracted Work - Submit a matrix indicating which work items are self-performed and which items are sub-contracted. Work items shall include
- Foundations
 - Slabs, Placement and Finishing
 - Panel Forming
 - Reinforcement Placement
 - Panel Concrete Placement and Finishing
 - Panel Erection
 - Crane Services
 - Other
- 3.3.3.8 Code of Conduct - This below paragraph should be restated on the applicant's letterhead and should be signed by a company officer.

A TCA Certified Company shall adhere to the following code of conduct:

As a TCA Certified Company we agree to ongoing compliance with the requirements and standards set forth in the TCA Company Certification Program Manual. We will no knowingly or purposefully violate any project specifications or requirements. We agree to maintain the 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 Certified Company status.

3.4 PHASE III - SITE AUDIT

The site audit will be scheduled after all Phase I and Phase II information is approved. The site audit will be scheduled within 90 days of Phase II approval. The audit team will consist of a representative of the TCA and a non-competing contractor peer reviewer. The name of the peer reviewer will be made known prior to scheduling the audit to eliminate the potential for conflict of interest.

The purpose of the site audit is to review actual documentation, observe and measure compliance with the program and the company's stated procedures, policies and objectives. Documentation on at least two recent projects from the list of submittals for of the application should be available for the audit team to review.

Records that document compliance with the Quality Control/Assurance, Qualified Trained Personnel and Safety sections of this manual are required to be kept on file for a minimum of three years following the completion of the project. Records can be paper or electronic. Documents will be made available for review by the audit team for inspection in order to verify compliance. The audit team personnel are not permitted to copy or remove any documents from the applicant's premises without their permission.

All site audits will be scheduled at least 30 days in advance on a date(s) agreed to by both parties. The applicant may use their personnel as they see fit in order to provide access to the required files and documents.

The applicant must provide the reviewers with government-approved safety equipment suitable for free access to the site.

The company is required to disclose all of its operating locations at the time of application and renewal.

The items included in the site visit will be:

1. Informal interviews with company administrative personnel.
 - Company Chief Executive Officer
 - Safety Officer
 - Manager of Tilt-Up and/or Field Operations
 - Other key administrative personnel
2. A review of the applicants safety program, documentation and implementation including safety meeting information and other records.
3. A review of quality assurance criteria, records, including 3rd party testing and review records.
4. Interview with key project individuals including:
 - Project manager for the projects reviewed
 - Job superintendent. (can be on-site)
5. Visits to job sites to observe compliance
 - General Site Organization and Safety
 - Postings
 - MSDS
 - Safety Equipment
 - Emergency Operations Plan
 - Related Information
 - Construction methods and procedures

4. RENEWALS

4.1 Annual Renewals

Annual renewals are required to maintain certified status. Renewal consists of providing evidence of ongoing compliance with the requirements of the Program Manual including any new rules or policies that may have been enacted by the program since the company's initial application.

Renewal fees are \$1,500 for non-TCA members and \$750 for TCA members in good standing. Failure to submit renewal fees by the due date will result in being placed on probationary status until fees are paid. If fees are not paid within 90 days the company will lose its certified status.

Renewal information and fees must be submitted by the applicant's anniversary date. Renewal information shall include:

1. Company Contact information highlighting any changes in address, ownership, officers, or expanded operations
2. A list of projects completed in the past year including affidavits or letters from at least two of the following (engineer, architect, or owner) that the applicant has met the project and industry standards and specifications regarding tolerances, finishes, materials and installation;
3. Copies of safety metrics for the past year including OSHA Incident Rate, Work Experience Modifier, and OSHA 300/300A Logs.
4. Proof of continuing education including documentation showing that the company has provided at least 10 hours of training or education to its employees. The company must submit a statement showing the name of each training course provided or attended and a list of the employees who attended each course;
5. A current certificate of insurance with the stipulated minimum coverage and with TCA named as an additional insured;

The TCA may at its discretion, as part of the renewal process, schedule a follow-up site audit for a certified company to review compliance with the stipulations of the program. If a follow-up audit is performed, the company will be notified at least 30 days prior to the visit.

5. ADMINISTRATION, APPEALS, AND ALTERNATE QUALIFICATIONS

5.1 Administration

This program is administered by the Tilt-Up Concrete Association (TCA) with principle offices located at 402 1st Ave SE, P.O. Box 204, Mount Vernon, IA, 52314. TCA may utilize staff and/or third party consultants to administer this

program, review applications and submittals, and perform on-site audits.

Applications, renewals, and appeals are handled as described in this Program Manual. TCA provides forms for application and renewal and these forms are to be used by the applicants.

All documents submitted by companies as part of this program will be treated as confidential by TCA staff and consultants.

Applicants and Certified Companies agree to let their company's name be utilized by TCA in conjunction with marketing and promotion of this program and the Association.

Certified Companies are permitted to use the TCA Certified Company logo on their companies documents and promotional materials as long as they maintain certified status. Once a company is no longer certified under this program, it must immediately stop the use of the certified logo and cease distribution of any materials it owns that contain this logo.

5.2 Probationary Status

A company may be placed on probationary status for a maximum of ninety days for any single event or deficiency of the program requirements. Any deficiency(ies) shall be conveyed in writing to the applicant or company. A company shall have 90 days to remedy the deficiency. A company who fails to meet the conditions necessary for removal from probationary status within the time allotted will forfeit all fees paid and lost certified status. A company that has its certified status revoked must apply as a new applicant if it wishes to be reconsidered for certification in the future. Any outstanding fees due must be paid by the applicant prior to submitting an application for reconsideration.

5.3 Appeals

All appeals to decisions made under this program must conform to the procedures outlined in this section. Appeals in this section are limited to disputes over interpretation of the requirements contained in this Program Manual and/or the applicants conformance with these requirements. Appeals under this section can only be made by an Applicant or Certified Company. All appeals must be made in writing and should state clearly that it is an appeal from an applicant or Certified Company.

A written appeal should first be sent to the party who made the original decision or judgment, notifying them of your intent to appeal and requesting a review. This notification is to be sent within fifteen days of the event being appealed. The original party will respond to the company within fifteen days of receipt of the notice with their final decision. If this response is not accepted by the company, they by submit a request to TCA staff to have the appeal reviewed by the Certification Appeals Panel. This request must include all prior documentation and correspondence including the initial appeal letter sent to the original party and their response. It is the appealing company's responsibility to provide all documentation and evidence.

The Certification Appeals Panel will consist of at least five individuals which may include TCA staff and/or legal counsel. The intent of the makeup of this Panel is to provide a group of individuals who can provide impartial review of the decisions and interpretations that have been made in order to resolve the dispute.

By submitting an application for certification, the applicant agrees (a) that the TCA's decisions concerning certification, including but not limited to the decision of the Certification Appeals Panel, shall be final and binding; (b) that the applicant will not institute legal action of any kind to challenge those decisions; (c) that neither TCA nor its members, officers, employees or representatives (including but not limited to the members of the Certification Appeals Panel) 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 TCA nor its members, officers, employees or representatives (including but not limited to the members of the Certification Appeals Panel) shall be liable for consequential or incidental damages of any kind as a result of the TCA certification program. By submitting an application for certification, 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 TCA and/or its members officers, employees or representatives in the course of defending that legal action.

If the appeal requires a return site visit, the applicant will be charged additional costs incurred for this visit.

5.4 Alternate Qualifications

It is understood that projects vary in terms of complexity, size, and scope; and that different jurisdictions and countries have standards for performance and safety that may differ from those used in the United States. The requirements contained in this Program Manual are meant to ensure that all TCA Certified Companies have completed and amount of work under the appropriate standards and guidelines so as to be able to deem the Certified Company experienced and in compliance with applicable standards.

A company that does not meet the strict “fifteen projects in five years” or Occupational and Health Safety Act standards but feels they have an alternate method of showing equivalent experience may submit documentation for consideration by TCA. Such evidence must be marked as “Alternative Qualifications” using the forms provided and will be evaluated and considered at the discretion of the TCA and its governing committees.

The initial evaluation will be made by TCA staff or its consultants, who may, at its discretion, submit the documentation for review and comment by the TCA Certification Committee. If the Applicant’s alternate qualifications are denied by both the Staff and the Certification Committee, the applicant may request to appeal the decision to the Certification Appeals Panel. Note that a determination of what qualifies as equivalent experience will rest with the Certification Committee, whose members are the most qualified to determine what constitutes equivalent experience. If requested, the Certification Appeals Panel will review the process used by Staff and Committee to ensure that fair and equitable practice and procedures have been met.

5.5 Public Information & Comments

TCA will maintain a list of TCA Certified Companies for review by the general public. Complaints about a Certified Company will be recorded by the TCA and, provided they meet the minimum requirements described herein, will be investigated to determine if the Certified Company is failing to meet ongoing program requirements. In order for the TCA to investigate complaints against a Certified Company, the complaint must be made in writing and must contain the following information with as much detail as possible:

- Certified contractor’s name
- Complaint’s name and contact information
- Specific project name and location if applicable
- Specific dates of violation 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 Certified Company

If TCA determines that an investigation is warranted, it will contact the Certified Company for a response and will provide the identity of the complainant. TCA may take action for any verified deficiencies including issuing notices to correct, or placing the Certified Company on probationary status, subject to the provisions listed in the Appeals section.

5.6 Due Diligence

Due diligence will be made by TCA to ascertain that the applicant meets the eligibility requirements stated herein before it is accepted into the program; however, it is the sole responsibility of the applicant to assess its readiness and to ensure that it meets the eligibility requirements before submitting its application.

5.7 Indemnification

In the event that any party asserts a claim for personal injury, property damage, economic loss or other damages against TCA and/or its members, officers, employees or representatives arising out of or relating to the acts or omissions of a TCA Certified Company, the TCA Certified Company shall, upon request, defend and indemnify TCA 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.



APPENDIX A

STANDARDS CITED IN THE MANUAL AND RECOMMENDED REFERENCE MATERIAL

AMERICAN SOCIETY OF TESTING AND MATERIALS

Note: Where work is performed outside the United States, the appropriate or associated standard or reference for the country in which the work is performed shall be substituted for the American Standard indicated.

ASTM Title Designation

A 36	Specification for Structural Steel
A 47	Specification for Malleable Iron Castings
A 82	Specification for Cold Drawn Steel Wire for Concrete Reinforcement
A 184	Specification for Fabricated Deformed Steel Bar Mats for Concrete Reinforcement
A 185	Specification for Welded Steel Wire Fabric for Concrete Reinforcement
A 496	Specification for Deformed Steel Wire for Concrete Reinforcement
A 497	Specification for Welded Deformed Steel Wire Fabric for Concrete Reinforcement
A 615	Specification for Deformed and Plain Billet Steel Bars for Concrete Reinforcement
A 616	Specification for Rail Steel Deformed and Plain Bars for Concrete Reinforcement
A 617	Specification for Axle Steel Deformed and Plain Bars for Concrete Reinforcement
A 706	Specification for Low Alloy Steel Deformed Bars for Concrete Reinforcement
C 31	Method of Making and Curing Concrete Test Specimens in the Field
C 39	Test Method for Compressive Strength of Cylindrical Concrete Specimens
C 138	Test Method for Unit Weight, Yield, and Air Content (Gravimetric) of Concrete
C 143	Test Method for Slump of Portland Cement Concrete
C 150	Specifications for Portland Cement
C 172	Method of Sampling Fresh Concrete
C 173	Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method
C 192	Method of Making and Curing Concrete Test Specimens in the Laboratory
C 227	Test Method for Potential Alkali Reactivity of Cement Aggregate Combinations (Mortar Bar Method)
C 231	Test Method for Air Content of Freshly Mixed

C 260	Concrete by the Pressure Method Specifications for Air Entraining Admixtures for Concrete
C 295	Recommended Practices for Petrographic Examination of Aggregates for Concrete
C 330	Specification for Lightweight Aggregates for Structural Concrete
C 470	Specifications for Molds for Forming Concrete Test Cylinders Vertically
C 494	Specifications for Chemical Admixtures for Concrete
C 595	Specifications for Blended Hydraulic Cements
C 617	Method of Capping Cylindrical Concrete Specimens
C 666	Test Method for Resistance of Concrete to Rapid Freezing and Thawing
C 805	Test Method for Rebound Number of Hardened Concrete
C 979	Specification for Pigments for Internally Colored Concrete

AMERICAN CONCRETE INSTITUTE

ACI	Title Designation
ACI 211.1	Recommended Practices for Selection Proportions for Normal and Heavy Weight Concrete
ACI 212	Guides for Use of Admixtures in Concrete
ACI 213	Guides for Structural Lightweight Aggregate Concrete
ACI 304	Recommended Practices for Measuring, Mixing, Transporting, and Placing Concrete
ACI 305	Recommended Practices for Hot Weather Concreting
ACI 306	Recommended Practices for Cold Weather Concreting
ACI 308	Recommended Practices for Curing Concrete
ACI 309	Recommended Practices for Curing Concrete
ACI 318	Building Code Requirements for Reinforced Concrete
ACI	Manual of Concrete Practice
ACI 551	State of the Art Report for Tilt-Up Concrete Panels

AMERICAN WELDING SOCIETY

AWS	Title Designation
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- A 5.1 Specification for Mild Steel Covered Arc Welding Electrodes
- A 5.5 Specifications for Low Alloy Steel Covered Arc Welding Electrodes
- D 1.1 Structural Welding Codes
- D 12.1 Reinforcing Steel Welding Code

TILT-UP CONCRETE ASSOCIATION

TCA Guideline Specification
TCA Wind Bracing Guideline
TCA Safety Guidelines

Specific Reference Material

ACI-533R-93 Referenced to Program Review Form

- Section I Personnel: These requirements are from typical manufacturing operations and have no industry references.
- Section II Records: ACI-533R Section 7.8
- Section III Shop Drawings: ACI-533R Paragraph 5.1.1
- Section IV Samples: ACI-533R Section 1.4
- Section V Concrete Mixes: ACI-533R Section 5.3
- Section VI Dimensions: ACI-533R Section 3.5 Paragraph 5.1.1 and 5.2.7.
- Section VII Reinforcing: ACI-533R Sections 4.7 and 5.4
- Section VIII Embeds: ACI-533R Section 4.8
- Section IX Placement: ACI-533R Sections 5.2 and 5.5
- Section X Curing: ACI-533R Section 5.7
- Section XI Stripping: ACI-533R - Section 5.8 and Paragraph 6.2
- Section XII Finishing: ACI-533R - Section 5.6
- Section XIII Delivery: ACI-533R - Section 5.9
- Section XIV Safety: Safety is a general concern and specific references are directed to local governing authorities or OSHA

APPENDIX B

TOLERANCES FOR TILT-UP PANELS

PANEL FORMING

Deviation from a specified panel height or width:

- Where specified height or width is 20 ft or less ±1/4"
- Each additional 10 ft or part thereof ±1/8"
- Not to exceed ±1/2"

Deviation from specified thickness, measured (before edge form removal) using a string stretched taut over 1/2-in-thick blocks attached to the tops of the edge forms

- Unformed surface 1/4", +1/2"
- Difference in length of the two diagonals, of a rectangular member or opening, when length of diagonal is:
 - 6 ft or less ±1/8"
 - Each additional 6 ft or part thereof ±1/8"
 - Not to exceed ±1/2"
- Opening dimension 1/4",
- Location of rustication joints ±1/8"
- Dimensions of Architectural features and rustications ±1/8"

DEVIATION FROM PLUMB

For heights less than or equal to 83ft 4 in.

- The lesser of 0.3% times the height above the top of Foundations as shown on Project Drawings or ±1"

For heights greater than 83 ft 4 in

- The lesser of 0.1% times the height above the top of Foundations as shown on Project Drawings or ±2"

DEVIATION FROM ELEVATION

- Top of exposed individual panel ±1/2"
- Top of non-exposed individual panel ±3/4"
- Difference at top of adjacent exposed panels ±1/2"
- Difference at top of adjacent non-exposed panels ±3/4"
- Foundations +1/4", -1/2"
- Base of erected panel ±1/4"
- Bearing plates of seats ±1/4"

DEVIATION FROM LOCATION

- Fabrication
- Edge of opening in panel ±1/4"
- Inserts, bolts, sleeves ±3/8"
- Flashing reglets ±1/2"
- Lifting inserts ±1/2"
- Weld plates ±1"

- Bearing plates or seats ±1/2"

Erection

- From center line of steel (governs over grid datum) ±1/2"
- From building grid datum, measured at base of panel ±1/2"

DEVIATION FROM SLOPE OR PLANE

Fabrication

- Weld plates ±1/4"
- Bearing plates and seats ±1/8"
- Edge of panel from center line of panel ±3/8"

Erection

- Bowing (due to erection stresses), measures within 72 hours after erection.
- 1/360 times panel diagonal dimension but not more than ±1"

Differential bowing, as erected, between adjacent

- Members of the same design ±1/2"

Warping (due to erection stresses), measured within 72 hours after erection

- 1/16 in/ per foot from nearest adjacent corner, but not more than 1 in.

Joint taper

- Over panel height ±1/2"
- Per 10 ft ±3/8"

Offset in alignment of adjacent matching faces

- Exposed ±3/8"
- Non-exposed ±3/4"
- Corners, exposed and non-exposed ±1/2"

DEVIATION OF RELATIVE WIDTHS

- Joint width (governs over variation in joint width) ±3/8"
- Variation in joint width over length of panel ±1/2"

Company Certification Program

Application

1. GENERAL INFORMATION

Company Name: _____

Principal Office Address: _____

City: _____ State/Province: _____

Postal Code: _____ Country: _____

Phone Number: _____ Website: _____

Principal Contact for Certification Program: _____

Direct Line/Mobile Number: _____ E-mail: _____

Application Date: _____

Our Company is Applying for Certification as a (Select One):

General Tilt-Up Contractor

Architectural Tilt-Up Contractor

This Application is for (Select One)

Initial Application

Initial Application + Optional Consultation Program

Recertification

The undersigned hereby requests certification by the Tilt-Up Concrete Association under its Company Certification Program, and attests that the applicant company meets all of the requirements for a Certified Company contained in the Policies and Procedures Manual. The applicant has read and understands the scope and intent of these requirements and agrees to complete the initial on-site audit within 90 days of TCA's acceptance into the certification program. The scheduling of the site audit is subject to availability of TCA Staff and peer reviewers.

Signature: _____ Date: _____

2. CERTIFICATION REQUIREMENTS

2.1 Compliance with Industry Standards and Client Specifications - Attach owner, architect, or general contractor (if applicant is a subcontractor), references that can attest to the company's successful performance on at least fifteen individual projects (or at least ten projects totaling 300 panels) in the last five years (see also "Alternate Qualifications"). If applying as an Architectural Tilt-Up Contractor, provide additional references attesting to successful completion of four different specialty finishes on projects in the last five years.

2.2 Compliance with Safe Working Requirements - The applicant hereby certifies that it meets the safety program requirements contained in the Company Certification Policies and Procedures Manual and published by the TCA and that it has available, at its principal office, the supporting documentation required in the manual. This documentation includes, at a minimum, a written safety manual.

In addition, the applicant will provide evidence of ongoing safe working practices as follows:

Current work experience modifier (or equivalent jurisdiction):

Current OSHA incident rate for the previous three years (or equivalent jurisdiction):

If Work Experience Modifier is higher than 1.1 and/or the OSHA Incident Rate is over 6.5 in any of the three previous years, please attach additional documentation/explanations as indicated in the Policies and Procedures Manual.

3. QUALIFIED/TRAINED PERSONNEL

The applicant hereby certifies that it meets the training and certification requirements contained in the Policies and procedures Manual and that it has on file and available at its principal office(s) evidence of this compliance.

List the names of the ACI/TCA Certified Tilt-Up Supervisors and Technicians currently employed by the company and attach their certification documents to this application.

Name: _____ Name: _____

Name: _____ Name: _____

Name: _____ Name: _____

Name: _____ Name: _____

Name: _____ Name: _____

Name: _____ Name: _____

Name: _____ Name: _____

Name: _____ Name: _____

4. QUALIFIED/TRAINED PERSONNEL

The applicant hereby certifies that it has on file and available at its principal office(s) a written quality control plan that meets the requirements contained in this Manual, and that it has proof of quality assurance documentation for at least two of its most recent projects that are either under construction or have been completed within the last three years.

Owner or architect references that attest to the company's successful performance on at least fifteen individual projects (or at least ten projects totaling 300 panels) in the last five years (see also "Alternate Qualifications") are attached to this application.

Provide additional references attesting to successful completion of four different specialty finishes on projects in the last five years if applying as an Architectural Tilt-Up Contractor.

5. INSURANCE REQUIREMENTS

The applicant hereby certifies that it meets the insurance requirements (including general liability and workers compensation/ employees' liability coverage) as required in the Policies and Procedures Manual. Attach a current certificate of insurance that meets the formatting requirements outlined in the Policies and Procedures Manual.

6. CODE OF CONDUCT

Applicant agrees to follow the Certification program Code of Conduct at all times and understands that failure to adhere to this Code of Conduct can be grounds for having its certification status revoked and/or placed into probationary status.

As a TCA Certified Company we agree to ongoing compliance with the requirements and standards set forth in the TCA Company Certification Program Manual. 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.

7. COMPLETION OF ON-SITE AUDIT

The applicant company certifies that it complies with all of the requirements contained in the Policies and Procedures Manual and that it is ready to schedule and complete its initial on-site audit as outlined in the Policies and Procedures Manual.

The reviewers will notify the applicant of the projects selected for on-site audit a minimum of two weeks prior to the scheduled date of the audit.

8. PROGRAM COSTS AND PAYMENT INFORMATION

Application Fee	\$4,500 \$3,000 (TCA Member)
Annual Renewal Fee	\$1,500 \$750 (TCA Member)

Program costs are subject to change without prior notice. Additional costs associated with multiple site visits deemed necessary and agreed upon due to deficiencies may occur. Most instances where deficiencies are discovered on an on-site audit will NOT require an additional site visit. An on-site audit will be conducted every fourth consecutive year of certification, and additional charges will be associated with this site-visit.

Payment Method (Select One)

- Check (inclosed)
- Visa
- MasterCard
- American Express

Billing Address: _____

City: _____ State/Province: _____

Postal Code: _____ Country: _____

Name on Card: _____ E-mail: _____

Card Number: _____ Phone Number: _____

Expiration Date: _____ Security Code: _____