

PTI Administrative Manual for PT Systems Qualification Testing and Certification

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1.0 GENERAL

1.1 Scope and Purpose

The Post-Tensioning Institute (PTI) Program for Post-Tensioning System Qualification Testing and Certification (PTS-QTC) has been developed to standardize the approval process for the Post-Tensioning System (PTS) and to provide independent certification of multistrand and grouted PTS for use in bridges and other structures.

The certification of a Post-Tensioning System (PTS) under this Program indicates that the PTS meets all requirements and is in conformance with the PTI/ASBI M50.3 Specification for Multistrand and Grouted Post-Tensioning (PTI/ASBI M50.3), latest edition, or as specified in contract document(s) for specific project(s).

The PTS-QTC Program covers the certification requirements for multistrand and grouted PTS used for prestressed concrete. It covers:

Strand post-tensioning systems

Bar post-tensioning systems

For this Program to be useful, it requires that the majority of federal, state and local building authorities subscribe to the Program and permit only certified systems on their projects. The Program is open to all suppliers of PTS.

The program provides:

- Uniform objective acceptance criteria and a mechanism to test and approve post-tensioning systems that meet these acceptance criteria.
- Assurance to specifying authorities, owners and contractors that accepted post-tensioning systems and their components were tested thoroughly and meet the minimum requirements specified in this program.
- A Registry for information on certified systems, which shall provide owners, engineers and others access to information on certified post-tensioning systems, while protecting the supplier's proprietary information.

1.2 Definitions

Independent Inspection Agency (Agency) - An organization which reviews PTS supplier's submittals of qualification testing for conformance with the PTS-QTC requirements and audits the PTS supplier for QA/QC conformance. It recommends acceptance of PTS that have met the requirements of the PTS-QTC Program.

Qualification Testing - Testing performed for acceptance and approval of a PTS. The testing shall be witnessed and certified by an independent testing laboratory.

Laboratory (Independent Testing Laboratory) - The organization that performs or observes and confirms the qualification testing. Laboratories shall be AMRL or A2LA certified, or other organizations accredited to ISO 17025 or AASHTO R 18.

Post-Tensioning Institute (PTI) - Trade and professional association of post-tensioning industry members.

Registry - Files containing PTS documents including drawings, specifications, test data, certification documents and their updates, nonconformance reports, their resolutions and monitor reports. PTI maintains the Registry.

Post-Tensioning System (PTS) - A single post-tensioning tendon size, consisting of prestressing steel, anchorages, ducts, accessories and stressing equipment. A system may be tested and accepted for different Protection Levels and at different concrete strengths.

Post-Tensioning System Supplier - A company that develops and supplies to the construction industry complete post-tensioning systems. Not covered by this definition are manufacturers of system components acting as vendors to PTS suppliers.

1.3 Limitations

The certification program extends only to the approval of the PTS insofar that it meets the requirements of the PTI/ASBI M-50 Specification. It is expressly not intended to cover the manufacturing or installation of the various components. It is not intended as a plant or manufacturing certification. The PTS-QTC program is expressly not intended for use in certifying the quality of materials for a particular project or suitability for a project. PTI does not approve, endorse, or guarantee products or construction design methodology, including warranties of quality, workmanship or safety, express or implied, further including, but not limited to, implied warranties of merchantability and fitness for a particular purpose. PTI shall not be liable for any damages, including consequential damages. Acceptance of the materials for the project remains the responsibility of the Owner's designated representative.

PTI will administer the certification in accordance with the requirements set forth in this manual, and the PTI QMS Manual, however PTI shall not:

Design, manufacture, install, distribute, or maintain post-tensioning tendon systems

Offer or provide consultancy to manufacturers or suppliers

Offer or provide management consultancy or internal auditing to manufacturers or suppliers

Post-tensioning systems must be installed, stressed, grouted, and finished properly. Any errors or omissions in design or construction are the responsibility of others and shall not in any way be considered to be delegated to, or made the responsibility of PTI, PTI Certification Programs, the Inspection Agencies or any of their officers, agents or employees.

Interpretation of all program requirements shall be based on the terminology definitions as defined in the Post-tensioning Terminology (PTT) Document available on the PTI Website.

The PTS supplier is responsible for quality and shall warrant that the materials the PTS supplier furnishes to project sites fully conform to the PTS-QTC Program and the certification requirements. It is also the PTS supplier's responsibility to adhere to its own quality assurance and quality control program. PTI recommends that project specifications require installation of certified post-tensioning systems to be performed by the PTI Certified Installers. Installation specifications, safety provisions, equipment handling instructions (as required from the PTS suppliers under this Program) as well as field supervision, shall not be considered as delegating the responsibility for installation related events to the PTS supplier.

The Agency is responsible for review and evaluation of PTS supplier furnished information and hardware for conformance with the requirements of the PTS-QTC Program. PTI and the Agency do not provide any expressed nor implied warranty in connection with any product, design or construction. Any errors or omissions in design or construction utilizing post-tensioning tendons shall not in any way be considered to be delegated to, or made the responsibility of PTI or the Agency, or any of their officers, agents or employees.

The owner, owner's engineer, or contractor, depending on the contractual obligations governing the project, are responsible for the suitability of a particular system for a particular application.

Proper performance of post-tensioning systems requires sound design and construction practices. Customary project related material and installation inspection and quality control duties remain with them.

1.4 PTS-QTC Program Criteria Summary

The PTS-QTC program is based on a review of drawings, materials, test data, and fabrication procedures during an audit by an Independent Inspection Agency. The initial certification of the PTS has no expiration date. Changes to the system or changes to the specification may warrant re-certification as described herein. Independent Inspection Agencies are selected from firms with in-depth experience in the post-tensioning industry.

Inspections by an Independent Inspection Agency shall include detailed review of records, drawings, test data, fabrication procedures, materials, equipment, and Quality Control Program as outlined in Sections 2.1.

Testing done to satisfy the requirements of other certification programs may be used for application for this certification program as long as it satisfies the technical requirements of this program. Maintain a system of record keeping by the PTS that will permit traceability of material used on specific projects. Keep these records for a minimum of three years after completion of a given project unless a longer period is stated in project specific specifications or applicable laws. Maintain a permanent record of all information provided for the PTS audit while the system is actively certified. If a PTS is removed from the registry and no longer

certified, records provided for the audit shall be maintained for a minimum of three years unless a longer period is stated in project specific specifications or applicable laws.

PTS Suppliers shall have a written Quality Control Program on file to ensure ongoing compliance to the PTS-QTC program. The Quality Control Program shall include an outline of procedures and assignment of responsibilities for each task.

PTS Suppliers shall establish and maintain procedures to control items that do not conform to specified requirements to prevent inadvertent installation or use. Maintaining a log or file to track disposition/disposal of non-conforming items is mandatory. Track any item that fails to meet specifications when received or a non-conformance is discovered during the fabrication process. The tracking information shall include, as a minimum: item description, manufacturer, discovery date, description of non-conformance, resolution, and date of resolution. Tag or mark and segregate all non-conforming items. Willful use of non-conforming items in a post-tensioned project shall warrant potential decertification of a system.

1.5 PTS Inspection Criteria

The Agency shall evaluate each item as required on the checklist. The evaluation shall be through review of test reports, drawings, and/or samples. The PTS supplier shall provide a complete package of all of the necessary data for approval as noted herein. Part of the evaluation shall be ensuring the lab performing the original test meets the qualifications or accreditation as noted in the PTI/ASBI M50 Specification.

The Agency shall use the technical checklist as provided for evaluation of the given post-tensioning system (PTS). A given system is of one combination of type, size, diameter (strand or bar diameter), and Protection Level. Each system shall be evaluated with a separate checklist. All items are identified as pass/fail and all relevant fields need to be completed as passed to certify the system. If there are any items for a given system that are not met and a dispute of the item meeting that field or necessity of meeting that field, the information shall be resolved first with the Agency and if resolution cannot be achieved, then the issue shall be escalated to the CRT-70 Committee and the PTI CRT-140 Certification Advisory Board (CAB) through the dispute resolution process outlined in the QMS Manual.

Some items may be redundant between the systems. The evaluation of a given component that occurs in several systems may be done once; however, the checklist and relevant information should be included with every system package and accompanying checklist. Each submittal and checklist should be able to stand on its own and evaluated independently.

1.6 CRT-70 Committee

The PTI CRT-70: PT System Qualification Testing & Certification Committee is responsible for the development and maintenance of the program for Post-tensioning System Qualification Testing and Certification which includes PTS Multistrand and Bars. The PTI CRT-70 committee is under CAB, which has oversight responsibility for this, and all other, PTI Certification Committees. The CRT-70 committee has based the requirements of the PTS

Certification solely on the requirements identified in the PTI/ASBI M50.3 Specification. The committee membership shall maintain a balance of interests as set forth in the QMS Manual and is listed in Appendix F. Current members are listed on the PTI Website at https://www.post-tensioning.org/committees/committeerooster.aspx?committee_code=CRT70.

2.0 PROGRAM ADMINISTRATION

2.1 INITIAL APPLICATION

Any person or entity supplying a PTS in North America or elsewhere may apply for certification of one or more PTSs. Applicants are not required to be members of PTI. PTS suppliers will direct their applications to PTI. They shall pay an application fee for each system and shall acknowledge that they agree to abide by the requirements of the certification program and PTI's payment terms. The applicant shall agree to pay all costs for testing and other expenses directly related to obtaining and maintaining system certification. . Such costs will include expenses to investigate inquiries, nonconformance, and appeals. PTS suppliers shall also agree to use the PTI PTS Certification mark in accordance with a nonexclusive licensing agreement.

With the application for acceptance of one or several post-tensioning systems the PTS supplier shall acknowledge the acceptance of the requirements and obligations of this Program, including waivers and indemnities.

As part of the application, the supplier shall submit a copy of their Quality Program.

The Quality Program shall comply with the requirements of Section 6 of the PTI/ASBI M50.3 Specification.

2.1.1 Application Form

The application shall include the following information:

Applicant: Company name and address, phone, and email/title of the company representative.

System: Designate the system type, system size (strand / Bar diameter & number of strands), the company's designation of the system, and the Protection Level seeking qualification

Acknowledgement: The application must be signed by a proprietor, partner, or authorized officer of the applying firm and notarized. The contact name, title and contact information shall also be supplied if the intended primary contact for correspondence is different than the individual signing the application.

The form to be submitted is provided in Appendix A.1

2.1.2 Supporting Documentation & Format of Submittal

All documents shall be available for review in paper copy, with legible size (minimum 8.5" x 11" paper although most drawings will be anticipated as 11"x17" format). A

corresponding copy of the documents shall be submitted in pdf format and uploaded to the PTI Registry online.

All Required information shall be submitted completely for a given system. It is recognized that some information will be redundant between systems, however the intent is that each system approval is able to stand on its own and be able to be evaluated and approved independently.

All drawings, text, and photos must be legible. Additional information shall be provided in a similar format as noted above upon request of the Agency.

Submittals shall be arranged in a format that the checklist can easily be utilized, such as with tabs, table of contents and dividers as necessary. Submittals that are incomplete or disorganized may be returned to the supplier by the Agency with a note indicating the issue, although the Agency is not required to give a detailed accounting of the issue.

Submittals shall be reviewed either in the PTS Suppliers office and/or can be reviewed remotely by the Agency.

The following shall constitute the major portions of the submittal.

2.1.2a Part Drawings

As part of the application, part drawings shall be submitted showing all dimensions necessary for fabrication, including tolerances, surface machining grades, and heat treatment requirements. The part drawings shall also define the material properties and reference applicable ASTM or other specifications. Drawings, including any revisions, shall be dated. These drawings are generally treated as “Confidential” by the supplier and all confidentiality requirements of the program shall be maintained for this and all Confidential information.

2.1.2b Assembly Drawings

System assembly drawings, including non-confidential part drawings, shall be submitted as part of the application. System assembly drawings shall comply with the requirements of this manual. In addition, system assembly drawings shall show minimum edge distance and minimum center to center spacing of tendons. These drawings are not treated as “Confidential” by the supplier. A non-confidential version will be posted in the public area of the Registry which is a requirement of the program.

2.1.2c QUALIFICATION TESTS

The PTS supplier shall perform the qualification tests required in the Technical Manual for Certification of Post-tensioning Systems PTI-CRT70 G3 (CRT70-G3). The tests shall be performed, either at a certified laboratory or at the PTS supplier’s facility, witnessed and certified by such a laboratory’s representative. In either case, the tests need to be certified by a company with the qualifications listed in the specification. The tests on representative system component samples shall meet the applicable minimum requirements of CRT-70. The PTS supplier shall submit the detailed test procedures and test reports to the Agency for review. These tests are generally treated as “Confidential” by the supplier and all confidentiality requirements of the program shall be maintained for this and all Confidential information.

2.1.3 Application Fee

The application fee must be submitted with the supplier's application. Current application fees are provided in Appendix A.3 Application Fee Schedule.

2.1.4 Financial Standing with PTI

Certification is conditional upon the supplier's fulfillment of its required financial obligations to PTI.

2.1.5 Supplemental Fees for Facilities Outside the Continental US and Canada

Additional fees may be required if travel is necessary outside of the US/Canada. These will be determined on a case-by-case basis.

2.1.6 Timeframe and Precedence for Evaluation

First Systems Reviews

For the initial reviews for a given company, the PTS supplier may submit up to three (3) individual systems for evaluation. Upon the initial submittal, the Agency shall evaluate and return those submittals within 90 days. For the inauguration of the program no systems will be approved before 90 days after the initial submittal.

Subsequent Reviews

Subsequent systems, shall be submitted to the agency and evaluated and returned as soon as possible. The typical time frame for submittal approval is less than 90 days, however will depend on the current backlog and how many systems are submitted. All reasonable efforts will be made to Certify or return the submittals with comments as soon as possible.

2.2 REVIEWS

2.2.1 Independent Inspection Agency (Agency)

The CRT-70 Committee shall select an Independent Inspection Agency (Agency) to perform the certification reviews of individual PTS and shall be responsible for all of the inspection firm's contracted activities. The Agency shall be an independent contractor and shall not be an employee of PTI. The Agency shall be appointed for a minimum initial term of three (3) years. The Agency's activities shall terminate at the close of the contract term unless renewed by mutual agreement.

The Agency shall be staffed by competent personnel experienced and familiar with post-tensioning systems, components, production processes, and qualification testing requirements; as well as post-tensioning design and construction. The Agency shall have a minimum of one licensed Professional Engineer on staff responsible for overseeing the firm's certification and review activities.

Unless otherwise approved by the CRT-70 Committee, the inspection personnel shall individually meet the minimum qualifications set forth in Appendix E. Each inspector shall pass

a PTS-QTC interview and be approved by the CRT-70 Committee. PTI shall be responsible for soliciting interest and requests for quotations (RFQ) for Agencies.

The Agency shall be responsible for review and evaluation of the PTS qualification testing documentation in accordance with the PTS-QTC Program, preparing an evaluation report, and sending copies of the evaluation report to the Post-Tensioning Institute within 90 days of receipt of submittals for evaluation. All review reports shall be signed by the auditor and a licensed Professional Engineer (if the auditor is not so qualified.)

PTI shall have two (2) Agencies review all submittals. This provides for impartiality and an inherent audit function. Should discrepancies arise, they shall be formally submitted to the CRT-70 Committee for resolution. One agency shall be appointed as "Lead Agency" for a given submittal, and the other agency appointed as "Audit Agency". Both agencies shall perform the full evaluation of the given system, however the "Lead Agency" shall serve the administrative functions of handling final approval and correspondence.

PTI may retain only (2) agencies or may contract with additional agencies as appropriate.

2.2.2 Confidentiality

The information furnished by the supplier shall not be disclosed by the Agency or PTI to any personnel other than supplier's authorized representative. Confidential information shall be clearly noted and marked by the supplier with the words "Confidential" or similar if reasonably and explicitly described to the Agency. The Agency and PTI shall be bound by the confidentiality agreement listed in Appendix C.1 prior to commencing any work. CRT-70 and CAB, as well as any other individuals that may be granted access to confidential information shall receive said information only on a need to know basis and shall be bound by the same confidentiality agreement established within the program. The Confidentiality Agreement for users of the various levels of the PT registry shall be followed and must be executed prior to granting access. This agreement is different in scope than the Agency agreement and is listed in Appendix C2.

The information posted in the registry shall contain the complete system drawings along with any relevant data sheets and procedures that were part of the system drawing submittal. This information will all be public access and not contain any Confidential information. Owners will have the ability to request specific information from the PTS Suppliers directly or through PTI. In order for PTI to provide the requested information, a confidentiality agreement must be in place, a reason for the request, and at least a seven (7) day notification to the PTS Supplier prior to the release of information. In the case of any dispute, the resolution shall follow the process as outlined in the QMS including escalation to the CRT-70 Committee and CAB as necessary.

Further information on the confidentiality, including the confidentiality agreement, are listed in the Certification QMS.

2.2.3 Schedule of Reviews

The general timeframe for submittal and approval is listed in section 2.1.6. Submittals shall be coordinated through PTI by submitting an application. PTI will contact the supplier within 15 days of receipt of the application to coordinate the delivery of the submittal information.

2.2.4 Grading

The certification for systems is a pass/fail criteria. The items within CRT70-G3 will be reviewed and any deficiencies recorded. If the system does not pass, the notes on the checklist will be provided to the supplier. Submittals that are disorganized or very deficient may be returned without a completed checklist and a general note of the issue. The intent however is that minor, correctable items shall be communicated in detail to the supplier so that they can revise and resubmit as necessary and efficiently.

2.2.5 Notification of Review Results

Notification will occur within the timeframe listed in section 2.1.6. The designated contact listed on the application will be notified via email with a letter. If the system is approved it will be uploaded to the online PTI registry within 15 days from receipt of approval notice from the Agency.

2.3 Certification

2.3.1 Certification

Systems that have been deemed by the Agency as having passed will then be approved through CRT-70. PTI shall submit a certificate indicating approval and this shall be approved by CRT-70 through 14 day letter ballot. Once approved, the certification letter will be emailed and the system posted on the registry. The registry shall serve as the official location and indication of approved systems.

PTI shall place a watermark "PT System Certified Stamp" (Fig. 1) on the submitted documents and return to the PT Supplier. The PT supplier may supply these stamped documents to the project owner directly for use or evaluation on a specific project.

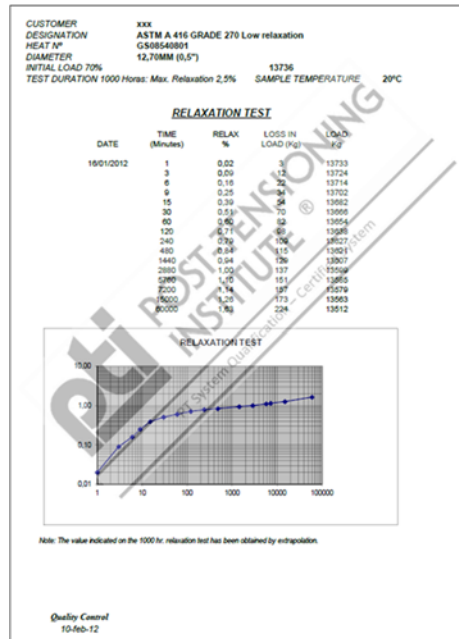


Fig.1 – Sample PT System Certified Stamp

PTS’s shall be listed on the registry in the following format:

Supplier Name and Contact Info / System Designation / Strand or Bar Diam / # Strands / PL’s / Status / CRT70-M50 Version

Status shall either be:

- *Certified – System has met the requirements of current CRT-70 / M-50*
- *P-Certified – System has met the requirements of a previous version of CRT-70 / M-50*
- *Conditionally Certified – Warranted complaint in the process of resolution.*
- *Suspended – System was previously certified but has been suspended due to standing with PTI, complaint that was unresolved, etc.*

2.3.2 Designation to Current M50 Specification

In addition to the Certification, the version of the CRT70-G3 and PTI/ASBI M50.3 it was approved under shall be noted. Systems shall remain approved indefinitely, however new versions of the specifications may warrant resubmittal. This shall capture the history of the submittal.

2.3.3 Secondary Suppliers

The supplier shall meet all requirements for itself and all secondary suppliers.

2.3.4 Responsibility to Ensure Conformity of Products

This program is limited to verification that a submittal for a given PTS meets PTI/ASBI M50.3 specification as established by the CRT-70 Program. The responsibility of the supplier providing materials that are in conformity with the approved system and specification remains with the Supplier, Client, and Owner. Any systems that are stated or implied as being ones that are PTI Certified (on the Registry) must entirely match those that were approved. No system that uses only a portion of the system may be claimed to be certified. Such designation may lead to decertification.

The supplier shall not state or imply other products it offers are certified by PTI and may only state PTI Certification of those particular products that have, and maintain, their certification. Suppliers may not offer two versions (a PTI and non-PTI certified) version of the same system.

No individual components (no matter how small or seemingly insignificant) may be substituted on a given approved PTI certified system without re-approval or written confirmation from PTI which will include the information of the allowable substitution being updated on the PTS Registry.

2.4 Maintenance of Certification / Re-review

The CRT-70 program initially certifies a given system to the current CRT-70 G3 and PTI/ASBI M50.3. The certification shall remain valid indefinitely and does not have an expiration date, although it shall cease to be current at any time a new version of the specification is introduced, or the system changes. The previous certification shall still be valid, however it will be designated that it is only applicable to the previous specification by adding a prefix of "P" indicating "Previous Version" along with the specification version. The CRT-70 intends to introduce an annual audit process in the future. Participation in future audits may become a requirement of maintaining a current approved system.

2.4.1 Failed Reviews

As noted above, the system is pass fail. If the system is deficient, the Agency will make all reasonable efforts to provide a detailed description along with the checklist on what items were deficient. If the deficiencies were minor, the first resubmittal shall be at a minimal fee as shown in Appendix A.3. If the deficiencies are substantial including a poorly organized submittal, the submittal may be rejected without providing detailed comments. There is no maximum number of re-submittals, however the fees will be incurred in accordance with the fee schedule of Appendix A.3. In the case of a disagreement on the fees and/or reason for the failed review, it will be turned over to CRT-70 and CAB for review. If it is not able to resolve the issue it will be brought to the appeals board as outlined in the QMS Manual.

2.4.2 Changed Products / Revisions

If the products are changed as described in CRT70-G3, the system will need to be resubmitted for approval. The fees for resubmittal are listed in Appendix A.3 and fall into three categories – Major Change, Minimal Change, Specification Update.

The PTS supplier shall keep system documents current. Any revision to any system component, such as dimension, material property, or specification requires resubmission. Revised drawings and specifications shall show revision marks and dates. PTS supplier shall explain how each change will affect the performance of the system. The PTI shall renew a system's certification without retesting if revisions, as judged by the Agency, do not negatively alter its performance. If revisions are judged to negatively affect a system's performance or its quality, it shall be necessary to retest and reevaluate the system. Some situations may be obvious, for example a company branding change on the label of the components, however some may be more difficult to determine. Both Agencies shall evaluate the change and concur on the significance. If there is any discrepancy or question on the significance of the change, it shall be brought to the CRT-70 committee and CAB for resolution.

2.4.3 Minimal Change Description

Items that provide a substitution of a single component that does not impact the overall system performance shall be considered a minimal change. These include maintaining the same geometry but altering the material of a part. The corresponding test data for that component will be required, however an alternate test may be proposed in lieu of the entire system test if it can be shown that the change does not have an impact on the performance of other parts. Some changes may be considered obvious and approved by inspection.

2.4.5 Inactive Status

A supplier may opt to note a system as inactive. If a supplier is not currently supporting a system they can indicate to PTI to have it removed from the registry, but it shall maintain its last status, assuming there is no change to the system or specification. It can be reposted at the supplier's written request to PTI.

2.4.6 Evidence of Non-compliance

This section addresses how non-compliance or suspected non-compliance is handled.

2.4.6a Complaints / Inquiries

The general process for complaints or suspected non-compliance is found in the QMS Manual. Items specific to the CRT-70 program are listed below.

Owners, their representatives, or contractors shall direct inquiries concerning system performance to PTI. In response they shall receive pertinent PTS acceptance documents to provide the basis for problem resolution. The complaints may be related to a system not matching the approved documentation, system failure, or general complaint. Some complaints will be out of the scope of the program and will be identified as such by PTI and notification provided to the complainant. Information will be only distributed on a need-to-know basis, to selected individuals who have accepted the confidentiality agreement, and for a particular verifiable purpose.

2.4.6b Nonconformity and Decertification

PTI shall inform the PTS supplier and the Independent Inspection Agency of any nonconformity reported by an owner or a contractor. The PTS supplier must then inform the PTI within thirty (30) days of the measures it took to correct the deficiency, or that the report was unfounded or erroneous. In case of a significant nonconformity event, as judged by the Agency, PTI shall inform the PTS supplier that an audit by the Agency will occur. Withdrawal of the certification shall occur if after such notice the deficiency remains uncorrected for 30 days or no steps have been taken to correct it.

The initial cost for the investigation shall be borne by PTI until the issue is resolved. The cost to investigate the non-conformity shall then be reimbursed by the PTS supplier, however if the non-conformity is shown to be unsubstantiated or incorrect, the PTS supplier shall have no responsibility for the cost. In cases where there is a partial responsibility, CAB shall determine as part of the resolution, the proportional share for which the PTS supplier is responsible.

PTI shall be permitted, based on the Agency's recommendation, to withdraw a Certification if non-conformance significantly affects a system's performance, but only if the deficiency remains uncorrected three months after notification.

The complainant shall be notified of the resolution through PTI.

2.4.7 Appeal Process

The general process for appeals is found in the QMS Manual. Appeals may relate to client complaints, non-conformances, changes not reported, failure of a certification, etc.

2.4.8 Changes to CRT-70 Program Review and Revisions

The CRT-70 committee shall revise this PTS-QTC Program when necessary to upgrade technical requirements to adhere to industry custom, usage or informal standards, or to improve administrative procedures. The PTS-QTC Program shall be reviewed at least every five years or when revisions are necessary. Any interested stakeholder may petition for revision. Participation in the program requires acceptance of the updated program requirements as they are introduced.

2.5 Rights of PTS Supplier

The rights of the PTS Supplier as related to this program, and other certification programs, are provided in the QMS Manual.

3.0 POST-TENSIONING SYSTEM REGISTRY

PTI shall maintain up to date files on all certified PTS submittals and test information. It shall supply pertinent information in response to inquiries, with respect to maintaining confidentiality and impartiality. PTI shall administer the Program and maintain the Registry containing all available information on approved systems. The Agency shall review the PTS supplier's application submittals. After having established conformance with all the requirements of this Program and the PTI/ASBI M50.3 Specification for Multistrand and Grouted Post-Tensioning, PTI shall issue the system certification. PTI shall also respond to

inquiries in accordance with this manual and the QMS Manual and withdraw certification if necessary.

3.1 SYSTEM CERTIFICATION

PTI shall certify separately each system, i.e., tendon size, protection level and concrete strength at time of stressing. It shall document compliance with the requirements of this Program. The system certification documents shall reference all part drawings, assembly drawings and specifications and their issue or latest revision date.

3.2 REGISTRY OF CERTIFIED PTS

All certified PTSs shall be listed in the Registry. The Registry shall contain general PTS information and all detailed information including system drawings.

The information posted in the registry shall contain the complete assembly drawings and non-confidential part drawings that were part of the system drawing submittal. This information will all be public access and not contain any Confidential information.

The Registry shall be maintained by PTI at the website noted in Appendix D. The privacy policy and other information related to the website are also noted in Appendix D.

APPENDIX A – APPLICATION REQUIREMENTS

A.1 – Application Form



**Application Form – PTI PTS
Qualification and Testing Program**

1. **Company/Facility Information**

Applicant Company Name:					
Company Address					
City		State:		Postal Code	
Mailing Address (if different)					
Name of Primary Person to Contact:					
Phone Number:					
Fax Number					
Primary Contact's E-mail Address:					
Name of PTS Certification Contact:					
Company Website (if applicable):					

2.

Official System Designation	PT System / Duct or Accessory (indicate only one category)	Protection Level

Administrative Manual for PT Systems Qualification Testing and Certification

PTI-CRT70 G1-0722

I hereby certify that the above information is complete and accurate to the best of my knowledge. I also affirm that I have reviewed the PTS Certification Contract and agree to abide by terms and conditions set forth therein.

Company: _____ Date: _____

Name: _____ Title: _____

Signature: _____

(To digitally sign the form, click on the signature block to the left and then select the "Sign as" drop-down menu and select "New ID". Then click the "Sign" button and select "A new digital ID I want to create now", then click the "Next" button. Select either one of the methods to store your ID and then continue as requested.

Submit application and application fee (contact PTI for member credit, if applicable) to Post-Tensioning Institute, 38800 Country Club Dr., Farmington Hills, MI 48331 or by e-mail to Michelle.Stern@post-tensioning.org.

A.2 – Certification Contract

PTI POST-TENSIONING SYSTEM (PTS) CERTIFICATION CONTRACT

This agreement is entered into by and between Post-Tensioning Institute (PTI) and _____ (participant) with respect to the Post-Tensioning System(s) described in the Application Form(s) attached hereto as Exhibit A, and is effective _____ (date).

WHEREAS:

PTI has developed and published its PTI/ASBI M50.3 Specification for Multistrand and Grouted Post-Tensioning Specification (Specification); and

PTI has adopted a program for PTS Certification documented in the CRT-70 PTS Certification Program Manual; and

PTI and Participant desire to review the Participant's compliance with specified provisions of the Standard through a series of reviews;

NOW THEREFORE, in consideration of the payment of fees by Participant to PTI, and in consideration of PTI's agreeing to administer the certification program, it is hereby agreed as follows:

This agreement applies to all of the Participant's facilities.

Fees are charged to Participant on a per system basis, as set by the PTI and are payable by Participant in advance.

Review and Certification

Reviews will be conducted by an Independent Inspection Agency appointed by PTI. PTI retains sole authority in the appointment of the Independent Inspection Agency.

Reviews and certification shall be conducted as described in the PTS Certification Program Manual (Manual) which is incorporated herein by reference.

Reviews will be conducted as scheduled by the Independent Inspection Agency.

Participant agrees to cooperate fully with the PTI appointed Independent Inspection Agency and its employees.

Participant agrees that it shall not in any manner intimidate, threaten, harass, impede or interfere with the Independent Inspection Agency in the performance of work under this Contract.

Periodic Program Audits

As part of the Quality Management System for the PTI will periodically engage a team of auditors to conduct a management review of the program.

Audits will be performed by a team appointed by PTI.

Audits shall be conducted as described in the PTI Quality System Manual which is incorporated herein by reference.

The audit team may accompany PTI's Inspection Agency during a review of the Participant's PTS.

Participant agrees to cooperate fully with the PTI appointed audit team, and agrees to provide said audit team and observers (if applicable) with access to its records upon request.

The identity of a Participant whose PTS has been audited as part of a PTI Quality Management Review shall be kept confidential.

PTI/Agency shall not:

Design, manufacture, install, distribute, or maintain PTS(s);

Design, implement, operate, or maintain a process that is within the scope of the PTS Certification Program;

Offer or provide consultancy to Participant;

Offer or provide management system consultancy or internal auditing to Participant.

Confidentiality: Except as required by legal order or otherwise required by law, neither PTI and its auditors and accompanying observers (if applicable) nor the Independent Inspection Agency nor any of its employees shall reveal any data or grading with respect to any PTS inspected at Participant's request, other than Participant's authorized representatives, except with Participant's written consent. When PTI is required by law or authorized by contractual arrangements to release confidential information, the Participant shall, unless prohibited by law, be notified of the information provided.

Term: This contract shall become effective on the first day of the month following payment of program fees. Contracts are in effect until the product changes according to Section 2.4 of the PTS Certification Manual.

Application: Application for certification shall be made in such form as PTI may from time to time prescribe. An application form must be submitted for each of the Participant's PTS.

Certification, Certificate, and Certification Mark Upon certification,

Participant shall receive a Certification Certificate.

PTI will grant Participant the right to use, in conformance with this agreement, the appropriate Certification Mark for use on stationary and for advertising purposes.

It is understood by Participant that in issuing a certificate and Certification Mark and authorizing its use, PTI does not approve, endorse, or guarantee any product, system, or construction, or in any way make any express or implied warranties in connection with any product, system, or construction.

The Certificate and Certification Mark remain the property of PTI and must be surrendered by Participant immediately in the event of decertification or voluntary withdrawal from the program

and any use of literature, documents, advertising matter, or any other items bearing the Certification Mark must immediately cease.

Participant agrees that certification is limited to the scope of Post-tensioning System Certification as defined in the CRT-70 PTS Certification Program Manual. Participant further agrees to not make claims regarding certification that are not consistent with the scope of its certification.

Change in Certification

In the event of a change in certification such as the following:

- A change in the PTS's type and/or category of certification
- Decertification
- A change in the company name

PTI will notify the participant in writing that it must discontinue the use of any previously awarded certified plaques or certificates, and not reference prior certified PTS status in company literature, advertising materials or correspondence. In addition, PTI shall update the PTS Certification web listing reflecting the change.

Certification Documents: If the participant provides copies of certification documents to others, the documents shall be reproduced in their entirety unless otherwise specified in the PTI-CRT70 PTS Certification Program Manual. This includes, but is not limited to inspection reports, certification certificates, program manuals, and certification related correspondence.

Participant promises to abide by the terms of this agreement. Participant understands that PTI reserves the right to change the terms and conditions governing certification and use Certification Marks from time to time, and Participant shall abide by such changed provision upon receipt of notice thereof or otherwise completely withdraw from the certification program by surrendering its certificates and foregoing the right to use the Certification Mark. Violation of the Agreement, or any part thereof, including, without limitation, any misrepresentation by Participant or misuse of the Certification Mark, constitutes grounds for PTI to withdraw Participant's privilege to participate in the Certification Program. In the event Participant is notified in writing by PTI that such withdrawal has occurred, Participant shall immediately surrender its certification and cease using the Certification Mark or facsimile thereof in any way.

Indemnification and Waiver of Claims: Participant agrees to indemnify, hold harmless and defend PTI from any and all liability, loss, expenses, or damage, including court costs and attorney's fees, PTI may suffer as a result of any matter arising from any action undertaken by PTI pursuant to this agreement, including, without limitation, any claims, demands, costs, or judgments against it arising from the testing or certification of Participant's systems by PTI, or from Participant's use of the Certification Mark, or from the use or operation of the certified systems or any certificate issued under this application whether the liability, loss, expense, or damage is caused by, or arises out of negligence by PTI or its officers, agents, employees, or otherwise.

Participant further agrees that it hereby waives any claim it may have against PTI arising from any action undertaken by PTI pursuant to this agreement, including, without limitation,

the accidental or negligent release of data by PTI or from the negligent performance of tests by PTI.

Participant agrees to submit an affidavit that all statements in this application and its submitted materials are true.

Choice of Law: Any disputes arising under this agreement shall be governed by the law of the State of Illinois.

IN WITNESS THEREOF, the parties have executed this contract the day and year first above written.

Post-Tensioning Institute

Participant Company

By		By	
----	--	----	--

Signature of Proprietor, Partner, or Authorized Officer

Title	Executive Director	Title	
Date		Date	

A.3 – Application Fee Schedule

The rates for PTS Certification are listed below:

Initial Approval for first three systems	\$ x,000 per system
Subsequent system approvals	\$ x,x00 per system
Minor change resubmittal	\$ x,000 per system
Major change resubmittal	TBD, but not to exceed \$x,x00

APPENDIX B – RECERTIFICATION FORM (CHANGES OR SPEC UPDATES, ETC.)



**Change Form – PTI PTS
Qualification and Testing Program**

1. **Company/Facility Information**

Applicant Company Name:					
Company Address					
City		State:		Postal Code	
Mailing Address (if different)					
Name of Primary Person to Contact:					
Phone Number:					
Fax Number					
Primary Contact's E-mail Address:					
Name of PTS Certification Contact:					
Company Website (if applicable):					

2.

Official System Designation	Major or Minor Change	PT System / Duct or Accessory (indicate only one category)	Protection Level

I hereby certify that the above information is complete and accurate to the best of my knowledge. I also affirm that I have reviewed the PTS Certification Contract and agree to abide by terms and conditions set forth therein.

Company: _____ Date: _____

Name: _____ Title: _____

Signature: _____

(To digitally sign the form, click on the signature block to the left and then select the "Sign as" drop-down menu and select "New ID". Then click the "Sign" button and select "A new digital ID I want to create now", then click the "Next" button. Select either one of the methods to store your ID and then continue as requested.

Submit application and application fee (contact PTI for member credit, if applicable) to Post-Tensioning Institute, 38800 Country Club Dr., Farmington Hills, MI 48331 or by e-mail to Michelle.Stern@post-tensioning.org.

APPENDIX C – CONFIDENTIALITY

C.1 Confidentiality Agreement for PTI Inspectors and Auditors

CONFIDENTIALITY AGREEMENT for PTI Inspectors and Auditors

This agreement, dated as of this _____ day of _____ 20_____,
by and between the Post-tensioning Institute (PTI) and _____
“Inspection Agency or Auditor” (Inspection Agency).

Whereas, during the course of the Post-Tensioning Institute’s (“PTI”) inspection program for Post-Tensioning Systems (PTS) (“PTS Certification Inspection”) the Inspection Agency , and in some instances, PTI’s auditors review Participant’s compliance with the PTI program for PTS Certification.;

Whereas, such review of compliance requires Inspection Agency/Auditors to examine and review files, data, documents and other materials of Participant which are, in Participant’s sole judgment, confidential and proprietary or trade secret information (“Information”);

Whereas, the certification program requires execution of an agreement between PTI and Participant which prohibits revelation of any data or grading with respect to any PTS documentation viewed during a Certification Review; and

Whereas, the parties desire to clarify their rights and obligations respecting Information;

Now therefore, in consideration of the mutual promises set forth below and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

The Inspection Agency/Auditors shall not copy, electronically capture screen or photo images, record video, or remove from Participant’s premises any Information examined or otherwise revealed to it during a Certification Review without the express written permission of Participant.

The Inspection Agency/Auditors agrees not to reveal for any purpose, or use, for purposes other than the Certification Review, at any time, any and all Information examined or otherwise revealed to it during a Certification Review without the express written permission of Participant.

The term “Information” shall not include general knowledge of materials, processes, data, or information which comes into the public domain not due to the fault of the Inspection Agency/Auditors.

Any amendment or waiver of the terms of this Agreement shall be made only in writing executed by the parties. Any waiver of the terms of this Agreement shall not act as a subsequent waiver of the same or similar terms. Any disputes arising under this Agreement shall be governed by the laws of the State of Illinois.

In witness whereof, the parties have executed this agreement as of the date set forth above.i

Inspection Agency/Auditors

Post-tensioning Institute (PTI)

C.2 PT Registry Users Confidentiality Agreement

CONFIDENTIALITY AGREEMENT for PT Registry Users

This agreement, dated as of this _____ day of _____, 20_____, by and between Post-tensioning Institute (PTI) and _____ (PT Registry User). Individuals authorized to have access to the Participant’s detailed records are:

_____ (List name and email address).

Whereas, during the course of the Post-Tensioning Institute’s (“PTI”) review program for Post-Tensioning Systems (PTS) (“PTS Certification Review”) the PT Registry User , compliance with the PTI program for PTS Certification.;

Whereas, such review of compliance requires PT Registry User to examine and review files, data, documents and other materials of Participant which are, in Participant’s sole judgment, confidential and proprietary or trade secret information (“Information”);

Whereas, the certification program requires execution of an agreement between PTI and Participant which prohibits revelation of any data or grading with respect to any PTS documentation viewed during a Certification Review; and

Whereas, the parties desire to clarify their rights and obligations respecting Information;

Now therefore, in consideration of the mutual promises set forth below and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

The PT Registry User agrees not to reveal for any purpose, or use, for purposes other than the PTS Project Evaluation, at any time, any and all Information examined or otherwise revealed to it during a PTS Project Evaluation without the express written permission of Participant and PTI.

The term “Information” shall not include general knowledge of materials, processes, data, or information which comes into the public domain not due to the fault of the PT Registry User.

Any amendment or waiver of the terms of this Agreement shall be made only in writing executed by the parties. Any waiver of the terms of this Agreement shall not act as a subsequent waiver of the same or similar terms. Any disputes arising under this Agreement shall be governed by the laws of the State of _____.

In witness whereof, the parties have executed this agreement as of the date set forth above.

PT Registry User

Post-tensioning Institute

APPENDIX D – REGISTRY INFORMATION

<https://www.post-tensioning.org/certification/ptsystemsqualification/database.aspx>

APPENDIX E – INDEPENDENT AGENCY QUALIFICATIONS

CRT-70 shall select multiple inspection firms (Independent Inspection Agencies) to perform the certification reviews of individual systems and shall be responsible for all of the inspection firm's contracted activities. The Independent Inspection Agency shall be an independent contractor and shall not be an employee of PTI. The Independent Inspection Agency shall be appointed for a minimum initial term of three (3) years. The Independent Inspection Agency's activities shall terminate at the close of the contract term unless renewed by mutual agreement.

The Independent Inspection Agency shall be staffed by competent personnel experienced and familiar with post-tensioning materials, components, and production processes; as well as post-tensioning design and construction. The Independent Inspection Agency shall have a minimum of one licensed professional engineer on staff responsible for overseeing the firm's certification review activities.

Unless otherwise approved by CRT-70, the review personnel shall individually meet the minimum qualifications set forth in Appendix E.6.

The Independent Inspection Agency shall be responsible for conducting PTS audits, preparing an evaluation report, and sending copies of the evaluation report to the Post-Tensioning Institute within 15-days of any review. All review reports shall be signed by the inspector and a licensed professional engineer (if the inspector is not so qualified.)

E.1 Conflict of Interest

The Independent Inspection Agency shall not be affiliated in any manner with any company or individual who has an ownership stake in a facility that participates in, or is eligible to participate in, the PTS Certification Program. The Independent Inspection Agency and its employees shall not be employed by any company or individual who has an ownership stake in a company that is eligible to participate in the PTS Certification Program. An individual who was previously employed by a company eligible to participate in the PTS Certification Program shall not serve in the capacity of an inspector for a period of two (2) years following his/her separation from the company.

E.2 Confidentiality

Independent Inspection Agency will not at any time or in any manner, either directly or indirectly, use for its personal benefit, or divulge, disclose, or communicate in any manner any information that is proprietary to PTI or participating PTS Supplier. The Independent Inspection Agency will protect such information and treat it as strictly confidential.

The Independent Inspection Agency shall be required to sign a confidentiality agreement with each participating PTS Supplier to protect all confidential, proprietary or trade secret information of the participating participants. In addition, all project records, communications, and committee deliberations shall also be considered strictly confidential and shall not be released to anyone without the express written approval of PTI. Further, the Independent Inspection Agency shall maintain the anonymity of the participants, while keeping

an accurate confidential record. Upon termination of its agreement with PTI, the Independent Inspection Agency will return to PTI all records, notes, documentation and other items that were used, created, or controlled by the Independent Inspection Agency during the term of the agreement.

E.3 Impartiality

The Independent Inspection Agency, and the personnel that it uses, shall not be involved, either directly or through any other employer, in such a way that the credibility of the results of the PTS Certification Program could be compromised. The Independent Inspection agency shall maintain impartiality and disclose any potential conflicts of interest to PTI at any point during its contract.

E.4 Corrective Action

Should the Independent Inspection Agency fail to comply with its contractual agreement with PTI or other requirements of Appendix E, the CRT-70 PTS Certification Committee and PTI shall take appropriate corrective actions.

E.5 Current Independent Inspection Agency/Personnel

See website for current inspection agency and personnel.

E.6 Minimum Qualifications for PTI PTS Inspectors

Experience

Unless otherwise approved by CRT-70, an inspector shall possess the following minimum experience: One year of working in or managing a post-tensioning supplier, post-tensioning inspector/testing lab, post-tensioning installer, post-tensioning designer, or Owner utilizing post-tensioning systems. The inspector shall have a working knowledge of post-tensioning principles, post-tensioning systems, and Quality Management System principles.

2. Conflict of Interest

The inspector shall not be affiliated in any manner with any company or individual who has an ownership stake in a facility that participates in, or is eligible to participate in, the PTS Certification Program. The inspector shall not be employed by any company or individual who has an ownership stake in a facility that is eligible to participate in the Certification Program.

An inspector must disclose all past affiliations and relationships with any company or individual who has an ownership stake in a facility that participates in, or is eligible to participate in, the PTS Certification Program. For example, if an inspector was previously employed by a company participating in the program, this information must be disclosed to PTI.

3. Licensing/Certifications

Unless otherwise approved by CRT-70, a PTI PTS inspector shall possess one or more of the following professional licenses or certifications

- Licensed Professional Engineer, or
- Quality Inspector Certification such as CQI or CQA from ASQ.

In addition, the inspector shall have field experience and/ or knowledge of multistrand and grouted post-tensioning construction. Either of the following would satisfy this requirement:

- PTI Certification as a Level 2 Multistrand and Grouted PT Specialist, or
- PTI Certification as a Level 1 Multistrand and Grouted PT Specialist, and 500 hours documented experience working on multistrand and grouted post-tensioned construction.

4. Trial Reviews

If the proposed inspector has had no previous experience as an inspector in PTI's PTS Certification Program, he/she shall fulfill one of the following prior to conducting an actual PTS Review:

- Accompany a currently approved inspector on a minimum of 2 PTS audits, or
- If no current inspector is available, accompany PTI staff on two "mock" audits.

APPENDIX F – CRT-70 COMMITTEE MAKEUP

The following shall form the membership of the CRT-70 committee. The term of each seat shall be for a 6 year period and follow the rules established by the QMS Manual, Program Manuals, PTI By-laws, and Certification Committee Manual (CCM) for nomination, election, and duration. Changes to this structure should come through and be recommended by the CRT-70 committee and approved by CAB.

The current membership roster is listed in the CRT-70 Committee Area on the PTI website.

A link to CRT-70 is listed below:

<https://www.post-tensioning.org/committees/committeedirectory.aspx>