



Frequently Asked Questions

PTI Certification of Plants Producing Unbonded Single Strand Tendons

Answers from the PTI CRT-140 Certification Committee

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Q Why should I specify that the post-tensioning system for my next unbonded post-tensioned project should be produced in a PTI Certified Plant?

A Certified materials are a building code requirement. The International Building Code (IBC), Section 1903.1, requires that unbonded tendons be fabricated in a certified plant by referencing the American Concrete Institute (ACI) “Building Code Requirements for Structural Concrete (ACI 318),”¹ which states:

3.8.4 – Specification for Unbonded Single-Strand Tendon Materials (ACI 423.7-07) is declared to be part of this Code as if fully set forth herein.

ACI 423.7, “Specification for Single Strand Unbonded Tendon Materials,”² which is directly incorporated by reference into ACI 318¹ and indirectly into the IBC, states the following:

*1.6.1 – Plant certification
Unbonded single-strand tendons shall be fabricated in a plant certified by an externally audited quality assurance program, which shall ensure that the unbonded tendons and components comply with the requirements of this Specification.*

*R1.6.1 – Plant certification
Plants certified by the Post-Tensioning Institute (PTI) have been shown to meet the requirements of this Specification.*

Q Who maintains the PTI Plant Certification Program and performs inspections?

A The PTI Certification Committee maintains the program and consists of a group of suppliers, designers, manufacturers, and inspectors that continually review and update consensus based documents—in this case, “Manual for Certification of Plants Producing Unbonded Single Strand Tendons.”³ Plant inspections are performed by an independent agency hired by the PTI and staffed with personnel experienced with unbonded post-tensioning materials, production, and processes as well as auditing, quality control, design, and construction.

Q How often is a PTI Certified Plant inspected?

A PTI Certified Plants producing unbonded single strand tendons receive one in-depth announced inspection by an Independent Certifying Agency and one unannounced inspection during the first year and a minimum of two unannounced inspections during all subsequent years.

Q What is inspected during each inspection?

A The PTI Certification of Plants Producing Unbonded Single Strand Tendons has been developed to provide independent certification of a plant’s fabrication capability to produce unbonded single-strand tendons in conformance with the “Post-Tensioning Institute Specification for Unbonded Single Strand Tendons”⁴ (September 2000 or as later amended). The inspections include a detailed review of a plant’s receiving and production records, test data, fabrication processes and procedures, materials, equipment, traceability, and the company’s quality control program.

Q What is PTI certified material?

A There is no PTI certified material. The PTI Certification of Plants Producing Unbonded Single Strand Tendons does not certify products or materials. The program provides independent verification of a plant’s fabrication capability, including processes and practices and indicates that the plant and personnel are capable by employing those processes and practices required to produce unbonded single-strand tendons in conformance with the “Post-Tensioning Institute Specification for Unbonded Single Strand Tendons”⁴ (September 2000 or as later amended).

Q If a company buys bulk strand with or without anchorage components from a PTI Certified Plant and then fabricates the strand (whether in a plant or in the field), does this satisfy the building code requirement for having unbonded tendons fabricated in a PTI Certified Plant?

A No. PTI plant certification is specific to a particular plant in a given location; this certification is not transferrable

to purchasers who subsequently fabricate the tendons. If, on the other hand, the unbonded tendons are fabricated by the certified plant and then sold to another company for installation, this would satisfy the plant certification requirements of IBC and ACI 318.

Q If I buy components from a PTI Certified Plant to fabricate tendons in my facility, will that satisfy the building code requirement for post-tensioning materials from a certified plant?

A No. The PTI plant certification program assigns responsibility for the quality of the final tendon assemblies to the PTI Certified Plant. The PTI Certified Plant is responsible for the quality of prestressing steel and anchorages, fabrication processes, installation of fixed-end anchorages, calibration of stressing equipment for shop and field, packaging and protecting sheathing from damage, traceability of supplied materials and certificates, and a system of record keeping for all materials used on a specific project.

Q If a company maintains one PTI Certified Plant and fabricates tendons in another noncertified plant, will this satisfy the building code requirement for having unbonded tendons fabricated in a PTI Certified Plant?

A No. PTI plant certification is specific to a particular plant in a given location; this certification is not transferable to other locations, even within the same company. Furthermore, the program states, "A company may not certify one or more plant(s), and then operate other non-certified plants, outside the PTI Program." Consequently, fabricated unbonded tendons produced in a noncertified plant are not allowable under the IBC.

Q If I specify plant certification as required by the code, will I limit competition and raise the price of unbonded post-tensioning on my project?

A Post-tensioning materials produced in PTI Certified Plants represent more than 90% of all unbonded post-tensioning shipments in North America. The PTI Plant Certification fees that an individual company pays to PTI are not inconsequential; however, relative to the cost of the overall post-tensioning system, the program cost is small and equates to an average of approximately \$2.50 (U.S. dollars) per ton. When compared to the overall costs of a project, the cost is insignificant while providing a considerable improvement in the quality of the main reinforcement of a structure.

Q How can I access the latest list of PTI Certified Plants?

A The latest list of certified plants can be downloaded directly from PTI's Web site at http://post-tensioning.org/cert_plant.php. There is also a database, which can be searched by company name, city, and/or state. Questions regarding the status of a specific plant can also be directed to the PTI staff.

REFERENCES

1. ACI Committee 318, "Building Code Requirements for Structural Concrete (ACI 318-08) and Commentary," American Concrete Institute, Farmington Hills, MI, 2008, 473 pp.
2. ACI Committee 423, "Specification for Unbonded Single-Strand Tendon Materials (ACI 423.7-07) and Commentary," American Concrete Institute, Farmington Hills, MI, 2007, 21 pp.
3. PTI Committee CRT-140, "Manual for Certification of Plants Producing Unbonded Single Strand Tendons—fifth edition," Post-Tensioning Institute, Farmington Hills, MI, 2007, 27 pp.
4. PTI Committee M-10, "Specification for Unbonded Single Strand Tendons," Post-Tensioning Institute, Farmington Hills, MI, 2000, 36 pp.



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