

**STATEWIDE CRITICAL REQUIREMENTS - FISCAL YEAR 2017/2018**  
**Quality Assessment Category Number 10D**  
**Bridge Structures – Post-tensioning (PT)**

1. Does the CEI staff confirm that the following requirements are adhered to: Internal ducts must be secured at not more than 30" intervals for steel pipes, 24" intervals for plastic ducts, and 12" intervals for flat plastic ducts? Ducts, joints, tendons, rebar and anchorages must be within specified position tolerances. Is there documentation to substantiate that these requirements were met and does a field visit verify this? [Spec. 462-7]
2. Does the CEI staff confirm that the following requirements are adhered to:  
(a) Contractor records the tendon stressing operation containing the 17 items required by the specification as well as any other relevant information and (b) Contractor signs and submits a grouting report or a wax injection report within 5 days of each grouting operation or wax injection operation? Is there documentation to substantiate that these requirements were met and does a field visit verify this? [Spec. 462-7, CPAM Section 10.7]
- 3a. For grout, does the CEI staff confirm that after grout is cured, all inlets and outlets are drilled and inspected with an borescope or probe per spec. and any voids found are filled depending on void size, vacuum grouting may be required? Is there documentation to substantiate that these requirements were met and does a field visit verify this? [Spec. 462-8]
- 3b. For wax, does the CEI staff confirm that the PT system, inlets and outlets at anchorages as well as all ports at high points along tendon are visually inspected and that any wax leaks found are repaired? Have all detected voids been filled? Have voids and/or exposed uncoated strands been addressed per the Wax Injection Operations Plan? Is there documentation to substantiate that these requirements were met and does a field visit verify this? [Spec. 462-8]
4. Does the CEI staff inspect all post-tensioned concrete box girder top slab, bottom slab, and web wall interior and exterior surfaces for cracks immediately after all post-tensioning for a span is complete? If the segmental cantilever erection method is used, is CEI staff inspecting all surfaces of web walls of all previously placed segments after each new segment is placed? Since these cracks can be very narrow and hard to see, are the surfaces sprayed with water to increase the visibility of the cracks and is a magnifying device and high intensity white light used during inspection? If cracks are found, are they reported to the Office of Construction immediately and is erection suspended until a satisfactory reason for the cracks is determined and a course of action established? Are individual cracks monitored over time to document growth? Does a field visit verify this? [Spec 400-21, CPAM 10.7]
- 5a. For grout, does the CEI staff inspect external tendon ducts and couplers for grout voids, fractured grout, delamination, as well as duct and coupler material punctures,

splits or other damage by sounding them and by visual inspection of all visible duct and coupler surfaces? Does the CEI staff sound each duct and coupler a minimum of seven days after grouting is complete by tapping the surface using a 16 ounce hammer with a steel head? Does a field visit verify this? [462-8, CPAM 10.7]

- 5b. For wax, does the CEI staff inspect external tendon ducts and couplers for wax voids, wax leaks, as well as duct and coupler material punctures, splits or other damage by sounding them and by visual inspection of all visible duct and coupler surfaces? Does the CEI staff sound each external duct between 24 and 48 hours after grouting is complete by tapping the surface using a rubber mallet? Does a field visit verify this? [Spec. 462-8, CPAM 10.7]