

Stressing and Testing Inspection Checklist –Page 1

- Make copies of all appropriate test forms (Examples are provided in Construction Documentation).
- Before the contractor is allowed to perform a performance or production anchor test, be sure the contractor is completely ready to perform the test.
- Be sure the contractor has supplied the bar or strand properties necessary to calculate elongation (i.e., steel modulus and area).
- Be sure the dial gauge is in proper working order (i.e., not broken or sticking) and has an appropriate travel length.
- Be sure the jack is in good working order, the jack and pressure gauge have been calibrated as a set, and a calibration graph is provided. If a load cell is required, a calibration graph for the load cell should be provided as well.
- Be sure the jack can be used to do incremental loading and unloading (i.e., the jack or pump must have a bleed-off valve).
- Be sure that the load cell and jack are aligned concentrically with one another and the anchor tendon, or erroneous readings will result.
- Be sure the dial gauge is aligned with the axis line of the anchor. Also be sure that the dial gauge does not walk excessively on the tendon head. This may be verified by scribing a circle on the tendon head around the gauge head after the alignment load is applied.
- Be sure the jack does not drop onto the anchor or lay on it. This may cause the anchor tendon to be bent or cause eccentric loading of the tendon during stressing.
- Check to make sure that a minimum alignment load is maintained at all times.
- Equipment malfunction during the anchor testing, unauthorized modification of the test procedure, or poor workmanship shall not be tolerated.

Stressing and Testing Inspection Checklist – Page 2

- For a bar tendon, periodically check to make sure that the spherical nut inside the jack chair is not allowed to come in contact with the jack or erroneous readings will result.
- If strand tendons are being used, check to see if the strands are being uniformly loaded by watching the seating wedges.
- Make sure the load applied to the anchor by the jack is held constant during the creep tests. The load must be held within 25 psi if a jack pressure gauge is used, or within 200 lbs. if a load cell is used.
- If the top row of anchors are being tested, make sure that all backfill material is in place above the anchor and behind the structure prior to stressing.
- Check to make sure that the anchor is not stressed above the required load at the maximum test load or during a creep test.
- Be sure to take a dial gauge reading at the lockoff load before the load is actually transferred to the structure.
- Allow for seating losses when transferring the load from the jack to the structure.
- Record all readings and other pertinent information during testing.

Construction Monitoring Inspection Checklist

Anchor Hole –Page 1

- Make copies or download from this CD the "Ground Anchor Installation Form." This type of form should be filled out for each ground anchor installation.
- Check and record appropriate information for each anchor installation.
- Observe the drilling operation to ensure that loss of ground is not occurring.
- Observe, visually identify, and log the soil or rock cuttings brought up by the drilling operation. Be aware of changed conditions.
- When applicable, note the location of different soil or rock types and water levels within the anchor hole.
- Check to be sure the anchor hole is drilled according to the alignment stated in the plans and is within the specified tolerances.
- Check that the anchor hole is positioned so that the tendon does not have to be pulled over laterally or vertically to be attached to the structural system.
- Inspect uncased anchor holes with a mirror or flashlight for caving or loose debris. The hole should be open and clean.
- Make an identifying mark on the tendon at a distance equal to the minimum unbonded length up from the top of the bond length. Check the tendon bond length and unbonded length prior to insertion into the hole.
- Make sure the tendon is inserted to minimum unbonded length.
- Watch to make sure that the workers handle the tendons carefully and that the tendons are not damaged.
- Check to be sure that centralizers are used to insure that the tendon has adequate grout cover.
- Check to make sure the centralizers are frequent enough to keep the tendon off the surface of the drilled hole in the bond length.

Construction Monitoring Inspection Checklist Anchor Hole– Page 2

- If the contractor desires to use the hollow stem auger method and centralizers cannot be used, a grout mix with a slump of 9 inches or less must be used to prevent the tendon from sinking to the bottom of the hole when the auger is withdrawn.
- Make sure the grout is injected at the lowest point of the drill hole so that the hole will fill evenly without air voids.
- Be sure the grout continues to be pumped as the grout tube, auger, or casing is removed.
- Check that the grouting equipment is equipped with a working pressure gauge when pressure grouting is to be performed.
- When applicable, determine head loss in the grout system with the casing, auger, or tube out of the ground prior to installation.
- Periodically check to insure that the grout pump always shows a positive net pressure (i.e., a pressure above the head loss pressure).
- When applicable, check the grout pressure gauge periodically for clogging.
- Measure and record the grout volume placed in the hole and determine the 'grout take'.
- Record the grout slump or make grout cube test samples, if required in specs.
- Check that the contractor does not reverse the auger rotation while grouting in the bond length of the anchor.
- Be sure the trumpet extends well over the sheathed tendon, and make sure it is not damaged.

Construction Monitoring Inspection Checklist Anchor Hole– Page 3

- Check to make sure the anchor tendon does not contact the sides of the trumpet before, during, or after the anchor is stressed.
- Check to make sure the trumpet and anchorage cover are **completely filled** with grease or grout. **This is extremely important!**
- Check the grout in the anchorage after it has set, as it may bleed and settle.
- For grease-filled trumpets, check to make sure that the seal is in place and the grease level does not drop.

Checklist for Field Quality Control of Materials

- For steel components, obtain samples for testing when specified and check all Mill Test Certificates for compliance to the specifications upon delivery.
- Visually check all anchor tendons for damage and defects upon delivery prior and to use.
- When specified, take grout samples for testing.
- Visually inspect grout for poor mixing, flowability, etc. during the grouting operation.
- If preassembled encapsulated tendons are being used, visually inspect the corrugated sheath for damage.
- Visually check encapsulated tendons assembled at the site for compliance to the contractor's procedure.