

POST-TENSIONING SYSTEM MATERIALS:

1. PRESTRESSING STRAND USED IN THE POST-TENSIONING SYSTEM SHALL BE 0.6" DIA. GRADE 270 LOW RELAXATION STRANDS CONFORMING TO AASHTO M203.
2. USE MAXIMUM OF 4 STRANDS PER 2" NOM. ϕ POST-TENSIONING DUCT.
3. FLAT ANCHORAGE ASSEMBLY SHALL BE GALVANIZED. LOCAL ZONE REINFORCEMENT SHALL BE EPOXY COATED. STRAND GRIPPING WEDGES SHALL NOT BE COATED.
4. GROUT USED FOR HAUNCHES, TRANSVERSE SHEAR KEYS, VERTICAL ADJUSTMENT ASSEMBLY VOIDS, AND HAND HOLES FOR DUCT CONNECTIONS SHALL BE MORTAR (M4.04.0)
5. GROUT FOR POST-TENSIONING DUCTS SHALL BE A CEMENTITIOUS, PRE-BAGGED, NON-SHRINK GROUT SPECIFICALLY FORMULATED FOR POST TENSIONING DUCTS.

DESIGN OF POST-TENSIONING:

1. THE PLANS DETAIL A POST-TENSIONING SYSTEM THAT IS DESIGNED TO PROVIDE A UNIFORM NET FINAL COMPRESSIVE STRESS OF XXX PSI ACROSS THE TRANSVERSE DECK JOINTS. THIS MINIMUM STRESS SHALL BE PROVIDED AFTER LOSSES DUE TO ELASTIC SHORTENING, DUCT FRICTION, WOBBLE AND ANCHORAGE SET. THE DETAILS ARE BASED ON THE FOLLOWING MATERIAL PROPERTIES AND PARAMETERS:
 - FRICTION AND WOBBLE COEFFICIENT = .0002
 - ANCHORAGE SET = .25 INCHES
 - THE AREA OF CLOSURE POUR CONCRETE IS NOT INCLUDED IN THE CALCULATION OF THE NET PRESTRESS FORCE.
2. THE DESIGN DETAILED ON THE PLANS RESULTS IN AN ESTIMATED JACKING FORCE OF XXX KIPS PER DUCT (AFTER ANCHORAGE SET).
3. THE CONTRACTOR SHALL DESIGN THE FINAL POST-TENSIONING SYSTEM BASED ON THE FRICTION, WOBBLE, AND ANCHORAGE SET ACCORDING TO THE ACTUAL MATERIALS THAT ARE PROPOSED. MINOR CHANGES TO THE SYSTEM CAN BE MADE PROVIDED THAT THE FINAL NET COMPRESSIVE STRESS AFTER LOSSES IS EQUAL TO OR GREATER THAN XXX PSI.
4. THE DESIGN OF THE POST-TENSIONING SYSTEM SHALL INCLUDE THE DESIGN OF THE LOCAL ZONE REINFORCING REINFORCEMENT BEHIND THE ANCHORAGE PLATE AND ANCHORAGE ASSEMBLY. THE LOCAL ZONE REINFORCEMENT SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
5. THE SYSTEM DESIGN SHALL INCLUDE A SEQUENCE OF STRESSING TO ENSURE THAT THE STRESSING OPERATION DOES NOT PERMIT MORE THAN 12.5% OF THE PRESTRESSING FORCE TO BE ECCENTRIC AT ANY TIME. STRESSING SEQUENCE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF WORK.
6. DECK PANELS MUST BE ALLOWED TO SLIDE ON GIRDERS DURING POST-TENSIONING.
7. AT THE CONCLUSION OF THE STRESSING, QUALIFIED PERSONNEL SHALL PREPARE AND SUBMIT A STRESSING REPORT BASED ON ACTUAL MATERIAL PROPERTIES USED ON SITE TO THE ENGINEER FOR APPROVAL.



LRFD BRIDGE

MANUAL, PART III

POST-TENSIONING NOTES

PRECAST CONCRETE DECK PANELS

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