

This check-list is compiled from field experience and observations. Should be only considered as a tool for the site Engineer to organize properly the PT works in a safe and efficient manner

Scope/Contract Issues

Contract scope (review of contract)	
Materials (strand & duct type and dimensions, anchorages type, grouting ancillaries)	
Equipment (jacks/pumps/pushing-pulling machine, grouting machine)	
Man-power (Nos. of foremen, workers, labors, engineers)	
Services (design, supervision, training, installation, stressing, grouting)	
Time schedule (estimated working schedule)	
Materials not-included and must be provided by Client (stirrups, spirals & additional bursting reinforcement, tapes, cement, water, grout)	
Services not-included and must be provided by Client (supporting staff, labors, lifting, electric power etc.)	
Submittals (Pt documentation, PT design, mill certificates and submittals for approval)	
Approvals (approvals and notes)	

Safety

Safety Engineer (contact details)	
HS plan & risk assessment (submission and approval)	
Safety induction & toolbox (prior of works commencement)	
Work permit (prior of works commencement/working hours/rules and legislation)	

Design

Latest revision approved structural drawings (check for any latest revision)	
Tendons geometry (X, Y, Z coordinates and reference point - plywood)	
Elongations (design elongation prior of wedges drawn-in)	
Stressing force (max applicable)	
Stressing sequence (1,2,3..., which side, simultaneously)	
Check of recess dimensions (verify that the jack and stressing tool can be fitted properly)	
Check of anchorages distances (min axial distances from edges and between anchorages)	

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Storage

Strand coils (wrapping, stocking, no more than 2 on top of each other)	
Ducts (not in contact with the ground, properly covered, no bends)	
Anchorage (proper stocking)	
Ancillaries (proper stocking, no bends and damages)	
Grouting materials/cement (proper stocking, no open bags)	
Humidity/rain protection (warehouse overall conditions)	
Packing list of materials (availability)	

Installation

Personal protection & safety wearing (helmet-goggles-gloves-footwear)	
Strand installation protocol (availability)	
Strand coil labels & certificates (must be collected/recorded)	
Electric power (availability/proper voltage)	
Lifting equipment (availability/tonnage capacity/webbings)	
Strand pushing-pulling machine/de-coiler/operation manuals (operational/properly maintained, beware of proper orientation-position of coil in the de-coiler)	
Bullets/wax (if required for strands threading)	
Cutting wheel (availability/cutting disks/proper voltage)	
Tendon geometry protocol (availability/measuring tape/beware of duct dimensions)	
Duct positioning & coupling (ensure proper wiring, coupling and sealing, tendons geometry supersedes reinforcement geometry)	
Intervals of stirrups (max distance as per design)	
Anchorage/recess/connection (check of connection & sealing to the plywood, shutters)	
Spirals & additional bursting reinforcement (availability)	
Sealing (ensure proper sealing by tapes/silicone, PU foam)	
Strands counting (counting of strands per tendon)	
Grouting/venting tubes-valves, tapping saddles (proper position, sealing and installation)	

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Casting

Sealing & connection-tightening issues (check of integrity and sealing of tendons especially at anchorages and grouting locations)	
Vibrators (avoid direct contact with tendon)	

Stressing

Personal protection & safety wearing (helmet-goggles-gloves-footwear)	
Secured perimeter (warning signs)	
Concrete strength (approval to proceed with stressing)	
Stressing protocol (availability)	
Numbering of tendons (mark the sequence of stressing onto structure)	
Jack type & stressing tools/clearances (verify proper jack type, operational/properly maintained, ensured proper positioning of jack, if needed bend the exposed reinforcement)	
Jack calibration certificates/force-pressure graph/operation manuals (valid certificates)	
Gauge calibration certificates (valid certificates)	
Pump/hoses/connections/operation manuals (ensure proper connection)	
Placement of anchor heads & wedges (ensure proper size, type and placement of anchor head, use of steel tube to place wedges properly)	
Ruler (availability to measure jack's stroke and actual elongated strand)	
Marking (color spray to mark the strands reference point)	
Electric power (availability/proper voltage)	
Lifting equipment (availability/tonnage capacity/webbings)	
Elongation/stressing force allowable % in comparison with design data (applicable as per standards and design)	
De-tensioning issues (availability of mon-strand and de-tension tools)	
Approval of stressing protocols prior of cutting strands overlength (written approval of stressing results)	
Grouting caps/casting of recess (casting of recess/placement of grouting caps if required)	

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Grouting

Personal protection & safety wearing (helmet-goggles-gloves-footwear-protection suit)	
Grouting trials (fluidity cone test, bleeding & other tests as per requirements of design)	
Cement/grouting materials (availability of cement, admixtures for expansion & fluidity, plasticizers)	
Water/temperature (ensure availability of ice cubes, water in appropriate temperature and water for grouting machine cleaning purposes)	
Weather conditions (weather temperature within appropriate margins)	
Grouting pump/hoses/connections/operation manuals (operational/properly maintained, verify proper connections)	
Gauge calibration certificates (valid certificates)	
Grouting protocol (availability)	
Electric power (availability/proper voltage)	
Lifting equipment (availability/tonnage capacity/webbings)	

Typical docs, tools & apparatus

PT design drawings and other details, WMS, HS, PT submittals	
Electric power/generator/extension cables/lifting equipment (min 5t)	
Cutting wheel & disks, drill, tool kit, webbing, shackles, wire cutter, pair of scissors, blade	
De-coiler, guide steel tube for threading, protection sheath for strand threading, strand pushing-pulling machine, strand threading protocols	
Adhesive tapes, silicone, PU foam, wire, tendons geometry protocols	
Bolts for bearing plate connection	
Lubricant for jack wedges, stressing & de-tensioning tools, hydraulic oil, jacks, pumps, hoses, gauges, calibration certificates	
Marking spray, marker, measuring tape/ruler, calculator, stressing protocols	
Fluidity cone, tube for bleeding, timer, thermometer, grouting machine, grouting protocols	