

dynamometer or by other approved method, so that its amount can be used as a check against elongation as computed and as measured. Each strand shall be marked prior to final stressing to permit measurement of elongation and to ensure that all anchor wedges set properly.

It is anticipated that there may be discrepancy in indicated stress between jack gage pressure and elongation. In such event, the load used as indicated by the gage pressure shall produce a slight overstress rather than understress. When a discrepancy between gage pressure and elongation of more than five percent in tendons over 50.0 ft long or seven percent in tendons of 50.0 ft or less in length occurs, the entire operation shall be carefully checked and the source of error determined and corrected before proceeding further. When provisional ducts are provided for addition of prestressing force in event of an apparent force deficiency in tendons over 50.0 ft long, the discrepancy between the force indicated by gage pressure and elongation may be increased to seven percent before investigation into the source of the error.

10.10.2—Pretensioning Requirements

Stressing shall be accomplished by either single-strand stressing or multiple-strand stressing. The amount of stress to be given to each strand shall be as shown in the contract documents or on the approved working drawings.

All strands to be stressed in a group (multiple-strand stressing) shall be brought to a uniform initial tension prior to being given their full pretensioning. The amount of the initial tensioning force shall be within the range specified in Article 10.10.1.4, "Measurement of Stress," and shall be the minimum required to eliminate all slack and to equalize the stresses in the tendons as determined by the Engineer. The amount of this force will be influenced by the length of the casting bed and the size and number of tendons in the group to be tensioned.

Draped pretensioned tendons shall either be tensioned partially by jacking at the end of the bed and partially by uplifting or depressing tendons, or they shall be tensioned entirely by jacking, with the tendons being held in their draped positions by means of rollers, pins, or other approved methods during the jacking operation.

Approved low-friction devices shall be used at all points of change in slope of tendon trajectory when tensioning draped pretensioned strands, regardless of the tensioning method used.

If the load for a draped strand, as determined by elongation measurements, is more than five percent less than that indicated by the jack gages, the strand shall be tensioned from both ends of the bed, and the load as computed from the sum of elongation at both ends shall agree within five percent of that indicated by the jack gages.

When ordered by the Engineer, prestressing steel strands in pretensioned members, if tensioned individually, shall be checked by the Contractor for loss of prestress not more than 3 hours prior to placing concrete for the members. The method and equipment for checking the loss