

## PSC's Precision Post-Tensioning System

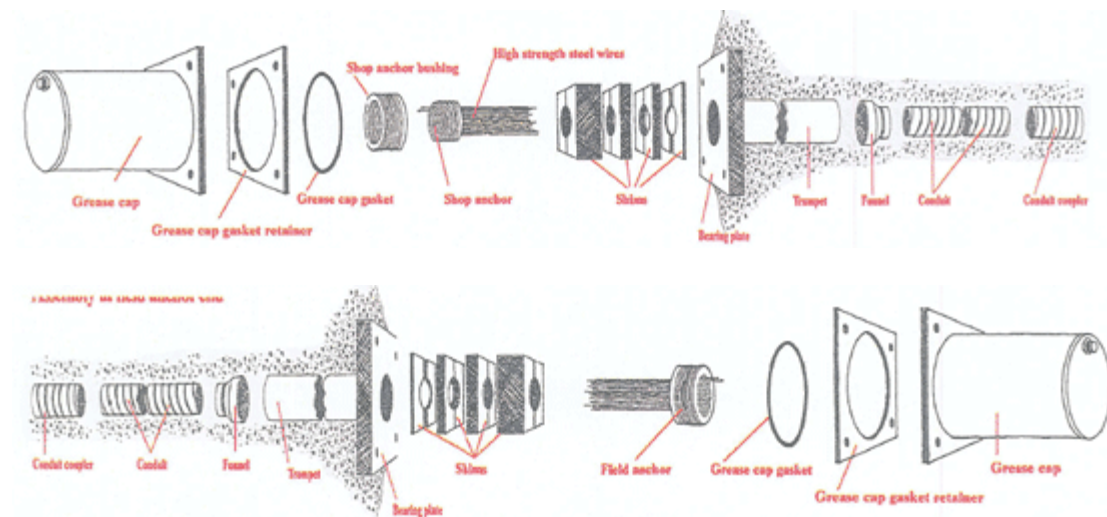
The most efficient post-tensioning system for pre-stressing nuclear containment vessels is the wire-tendon system utilizing parallel lengths of high-strength wire. Tendons for nuclear containment work consist of 90, 170, and 212 wires fabricated to the designed length. Both ends of each wire terminate in a cold-formed button-head after the wire is passed through a machined anchorage fixture. This process results in a no-slip anchorage and eliminates potential seating losses common in friction-grip anchors.

The un-grouted post-tensioning tendon system is an un-bonded one, which means that there can be no reliance on a grout bond to assist in anchoring the tendon. The button-head wire principal provides positive and totally reliable tendon anchorage and delivers the ultimate strength of the pre-stressing steel.

Tendons are installed by pulling them through the semi-rigid metal conduit which had been encased in concrete. After such an installation each tendon is stressed. Finally, grease is pumped under pressure into this sheathing conduit so that each tendon is fully and permanently protected against corrosion.

### Surveillability

One of the most important features of the un-bonded system is its total surveillability. Because every tendon is readily accessible and capable of being de-tensioned and re-tensioned, it can easily be inspected at any time after installation for strength and integrity in accordance with the surveillance requirements established by the Nuclear Regulatory Commission.



Anchor Designation	90W	170W	212w
Number of Wires *	90	170	212
Ultimate Force (kips)	1060	2003	2498
Initial Force at Transfer (kips)	742	1402	1748
Bearing Plate Size (inches)	18 dia.	20.5 x 20.5	23 x 23
Conduit I.D. (inches)	3.75	4.75	5.5