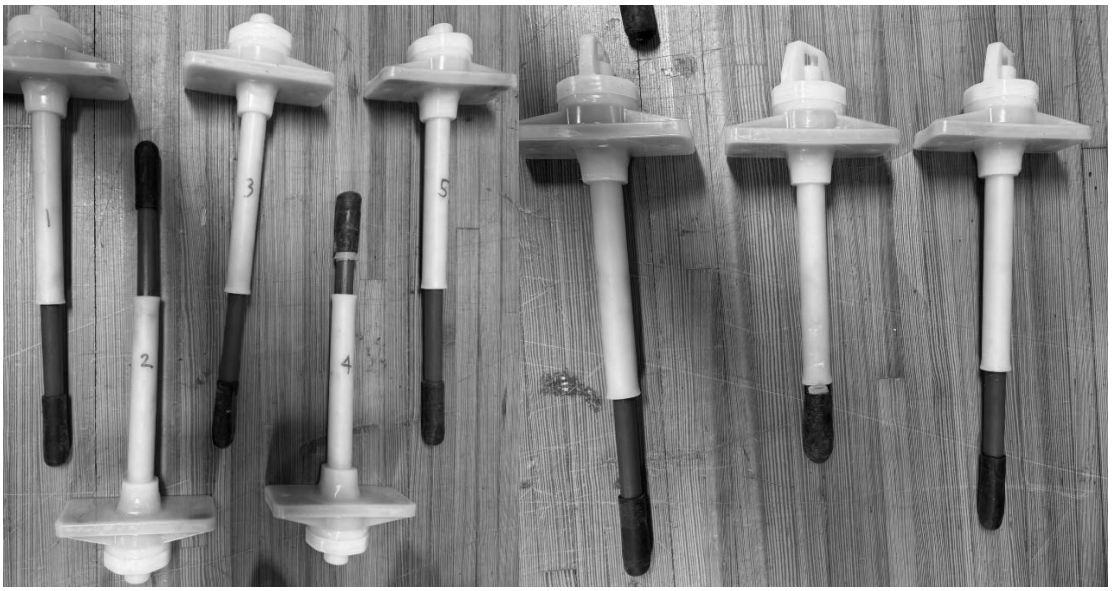
Hydrostatic Testing in Accordance with PTI and ACI

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3219 May Street
Fort Worth, Texas 76110



FINAL REPORT

January 13, 2026 rev 01
WJE No. 2025.5526

PREPARED FOR:

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PREPARED BY:

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INTRODUCTION

At the request of Post Tech Manufacturing (PTM), Wiss, Janney, Elstner Associates, Inc. (WJE) performed hydrostatic testing of encapsulated post-tensioning strand anchorages in accordance with American Concrete Institute (ACI) 423.7-14 - *Specification for Unbonded Single-Strand Tendon Materials* and Post-Tensioning Institute (PTI) M10.2.-24 – *Specification for Unbonded Single-Strand Tendons*. Testing was performed on PTM Alpha Live End (LE) (LPT5I) and Alpha Fixed End (FE) (LPT5I) encapsulated anchorages prepared and provided to WJE by PTM (Figure 1).

TEST SPECIMENS AND ASSEMBLY

Testing was performed on two types of anchorage encapsulation systems. A description of each system follows.

- PTM Alpha Live End encapsulation (Figure 2)
  - White anchorage encapsulation
  - 6-in long transparent strand seal
  - White anchorage cap completely filled with PT coating (grease)
  - White threaded cover with loop and center hole that threads and secures the anchorage cap to the anchorage encapsulation
- PTM Alpha Fixed End encapsulation (Figure 3)
  - White anchorage encapsulation
  - 6-in long transparent strand seal
  - White anchorage cap completely filled with PT coating (grease)
  - White threaded cover with center hole that threads and secures the anchorage cap to the anchorage encapsulation

A total of three (3) PTM Alpha Live End (LPT5I) and five (5) PTM Alpha Fixed End (LPT5I) samples were prepared and delivered to the WJE Janney Technical Center for hydrostatic testing. A total of three (3) PTM Alpha Fixed End (LPT5I) samples were randomly selected for testing, and the three (3) PTM Alpha Live End (LPT5I) samples were tested.

A length of 0.5-in diameter coated strand, anchorage, and wedges were used for each tested anchorage. A strand bullet cap was used to seal the free end of the strand. The bullet cap was taped and placed over the coated strand.

TEST PROCEDURE

ACI 423.7-14 Section 9.3 Encapsulated systems and PTI M10.2-24 Section 2.6.2 Hydrostatic test state for applications governed by ACI 318 the encapsulation assembly shall remain watertight. A watertight connection of the strand sheathing to the anchorage and enclosure to the wedge cavity is required to provide corrosion protection of the entire assembly. The assembly shall remain watertight when subjected to a hydrostatic pressure of 1.25 psi (2.88-ft of water) for 24 hours.

The test procedure consisted of submerging three samples of each assembly into a tank of water with a depth of 3-ft. The assemblies remained in the water for a minimum of 24 hours. At the end of 24 hours, the assemblies were removed from the water, and the exterior of the assemblies were dried. Each

assemblies threaded cover and anchorage cap were removed, and the cap and wedge cavity were examined for water infiltration. Each strand seal was cut longitudinally and examined for water infiltration.

TEST RESULTS

The PTM Alpha Live End (LPT5I) encapsulation samples were submerged on October 16, 2025, and removed approximately 24 hours later on October 17, 2025. The PTM Alpha Fixed End (LPT5I) encapsulation samples were submerged on October 17, 2025, and removed approximately 24 hours later on October 18, 2025. The exterior of each sample was dried upon removal using a cloth and the threaded cover and anchorage caps were removed. The wedge cavity was visually examined for water. The strand seal was cut longitudinally and examined for water infiltration. The results of each assembly are listed in the table below.

Table 1. Hydrostatic

Encapsulation Assembly	Pass/Fail	Documentation
PTM Alpha Live End (LPT5I)	Sample 1 – Pass	Figure 4
	Sample 2 – Pass	Figure 5
	Sample 3 – Pass	Figure 6
PTM Alpha Fixed End (LPT5I)	Sample 1 – Pass	Figure 7
	Sample 2 – Pass	Figure 8
	Sample 3 - Pass	Figure 9

CLOSING

At the request of Post Tech Manufacturing, Wiss, Janney, Elstner Associates, Inc. performed hydrostatic testing of encapsulated post-tensioning strand anchorages in accordance with American Concrete Institute (ACI) 423.7-14 - *Specification for Unbonded Single-Strand Tendon Materials* and PTI Guide Specification - *Specification for Unbonded Single Strand Tendons*. Testing was performed on PTM Alpha Live End (LE) (LPT5I) and Alpha Fixed End (FE) (LPT5I) encapsulated anchorages prepared and provided to WJE by PTM. A total of three (3) PTM Alpha Live End (LPT5I) and three (3) PTM Alpha Fixed End (LPT5I) samples were prepared and delivered to the WJE Janney Technical Center for hydrostatic testing. Samples were submerged in 3-ft of water for 24 hours. Samples were removed from the water, and the anchorage caps and threaded covers were removed and examined for water infiltration. None of the samples had water entering the anchor cavity, the anchorage cap, or the strand seal.

FIGURES



Figure 1. PTM Alpha Encapsulated Anchorage. Left image is the Alpha Live End (LE) (LPT5I) and right image is the Alpha Fixed End (FE) (LPT5I) encapsulation.

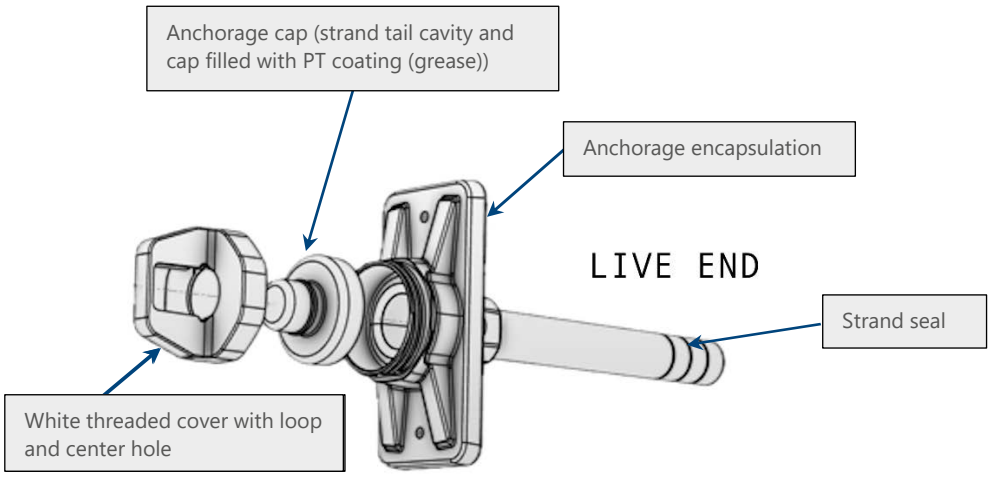


Figure 2. Image of the PTM Alpha Live End (LPT5I) encapsulation system

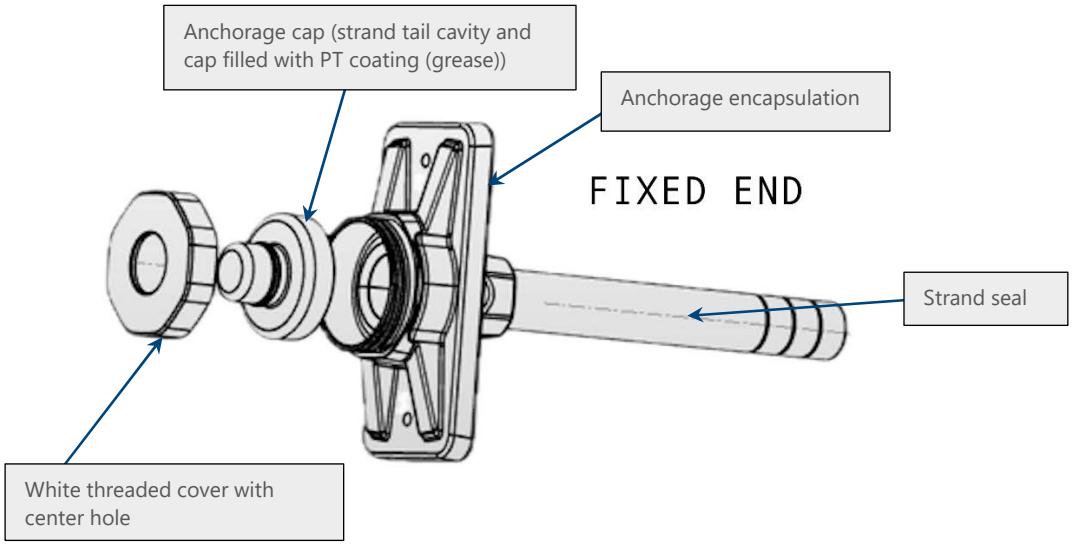


Figure 3. Image of the PTM Alpha Fixed End (LPT5I) encapsulation system



Figure 4. PTM Alpha Live End (LPT5I) Sample 1

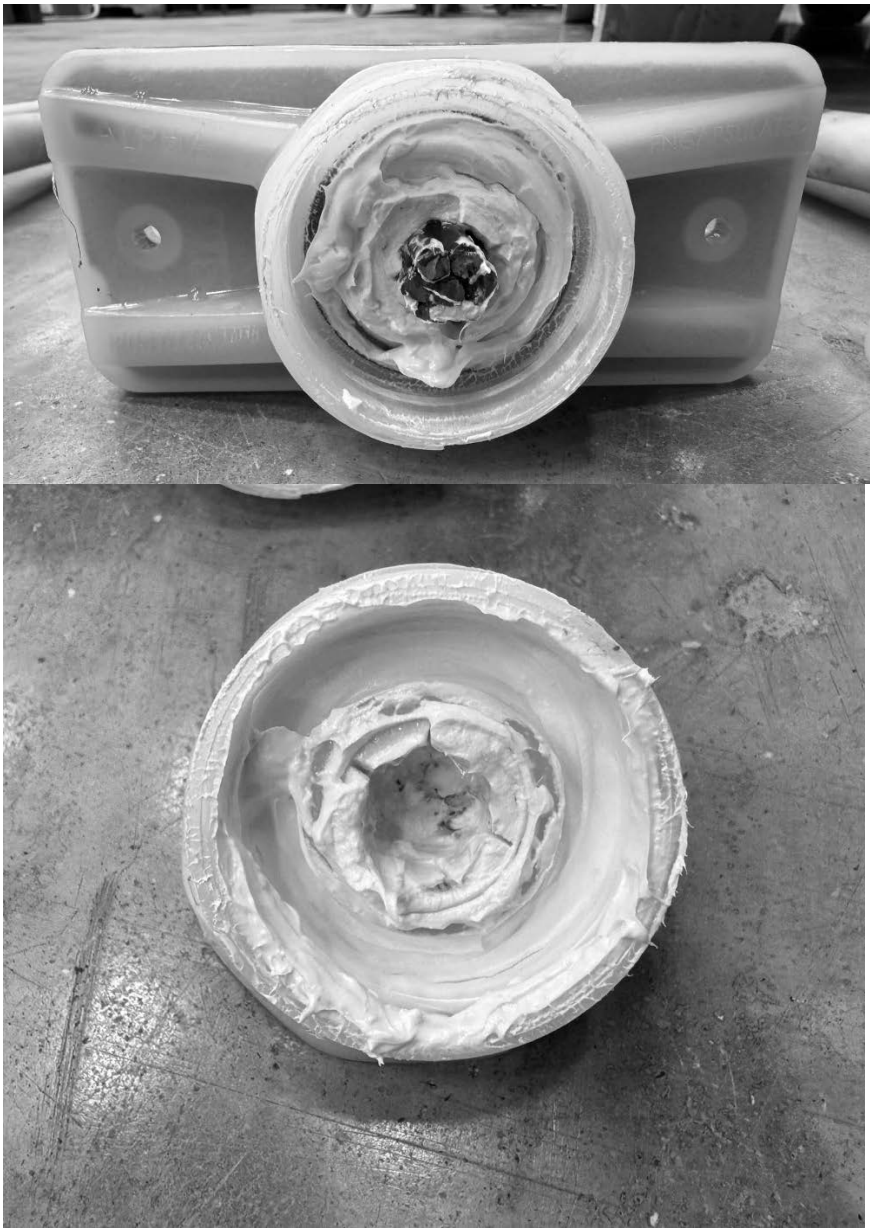


Figure 5. PTM Alpha Live End (LPT5I) Sample 2



Figure 6. PTM Alpha Live End (LPT5I) Sample 3

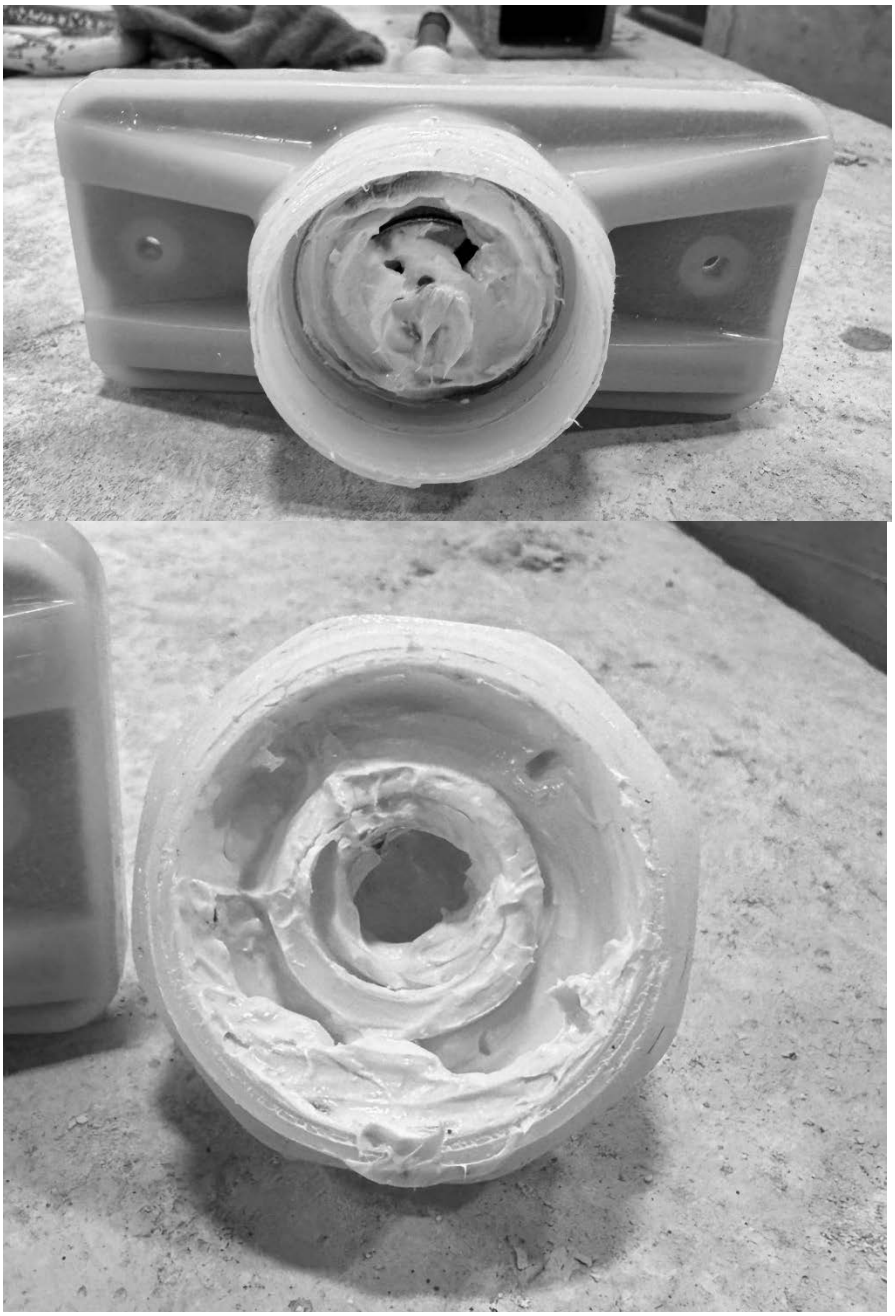


Figure 7. PTM Alpha Fixed End (LPT5I) Sample 1



Figure 8. PTM Alpha Fixed End (LPT5I) Sample 2



Figure 9. PTM Alpha Fixed End (LPT5I) Sample 3