Tank Installation Comparison

Plasteel® Elutron® Simplicity vs. FRP Complexity

Procedure	Plasteel® Elutron® Tank	FRP Double-Wall Tank	Cost Effectiveness
Pre-Installation Testing	Not required if delivered with factory established interstitial vacuum.	Inner tank Pressure Test. Interstice Pressure Test. External Soap Suds Test. Monitor Fluid Leak Inspection.	FRP Tank – Additional labor and equipment required.
Backfill Material	Choice of sand, pea gravel or crushed stone.	Pea gravel per ASTM C-33 for most FRP tanks.	FRP Tank – No potential savings. Elutron® Tank – Potential savings with choice of materials.
Excavation	Smaller Excavation	Larger Excavation.	FRP Tank – Most require 30-50% more soil removal and 30-50% more backfill material than Elutron® Tank.
Backfill Procedure	Less time ensuring compaction.	More time ensuring compaction.	FRP Tank – Most FRP tanks rely on backfill for structural support, no voids. Elutron® Tank – Steel resistant to small backfill voids.
Ballasting	Quick and simple, backfill to top not required before ballasting.	Slow and tedious.	FRP Tank – More labor hours for wet hole since most FRP tanks cannot be ballasted until backfilled to top of tank.
Deflection Measurement	Not required.	Most FRP tanks require two measurements – one before backfill and the other after backfill.	FRP Tank – Additional labor and possible tank removal and replacement of backfill.
Warranty	Deflection measurement compliance is not a term in the warranty.	Most warranty validations are based on compliance to a specified maximum Deflection measurement.	FRP Tank – Possible future, in-service costs if Deflection exceeds a specified maximum limit.

SUMMARY:

1. All the above FRP Tank procedures are an effort to maintain the structural integrity and minimize the Deflection of the FRP (non-metallic) structure during the service life of the FRP Tank. When the FRP Tank laminate exceeds its yield point, failure can be a catastrophic rupture.
2. Because of the ductility of steel, the Elutron® steel primary tank will perform well beyond its yield point.
3. All Elutron® Tanks use a steel tank for structural performance. The steel tank provides the structural performance for the Plasteel FRP Laminate.
4. Over 33,000 Plasteel® Tanks (22,000 Elutron® Tanks) have been placed in service since 1971. There has never been a Plasteel® Tank failure due to external or internal corrosion when storing motor vehicle fuels.
5. Simplicity = Elutron® Tank installation instructions are 3 pages. Complexity = Most FRP Tank installation instructions exceed 20 pages.
6. The Elutron® Tank was UL performance tested and Listed per the External Pressure Test in UL Standard 58. The test tank was successfully submerged in 5 feet of water with no backfill. The test tank did not deflect or deform.