

Wood Pole Restoration Systems

Reliable, Long-Term Solutions for Extending Service Life



Osmose®

Reliable Wood Pole Restoration

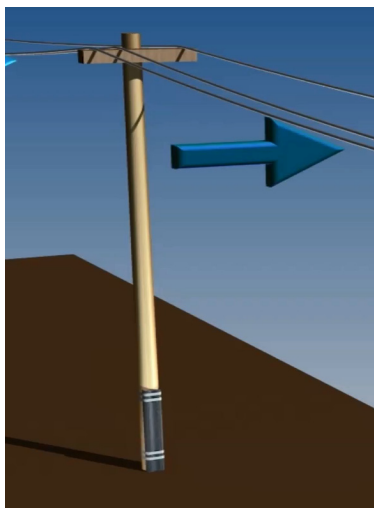
Osmose has been a trusted name in utilities services since 1934. As a world leader in wood pole inspection and restoration, Osmose technicians are experts at evaluating a pole's remaining strength and suitability for restoration. This includes using preservatives to control decay and protect the remaining serviceable wood to ensure the longevity of the newly-restored pole and the overall integrity of your pole plant.

- Restores code-mandated strength
- Adds decades of service life
- Avoids the hassle of change-outs and service interruptions
- Saves money - pole restoration is often one-third or less of the cost of pole replacement.
- 100% capital investment

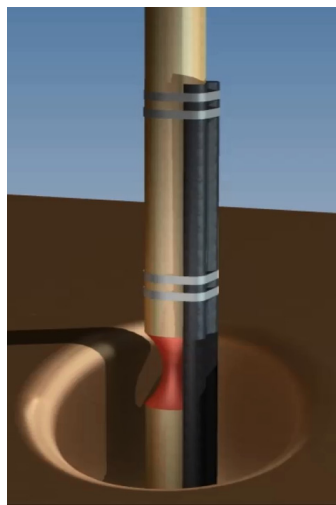


How Trusses Work

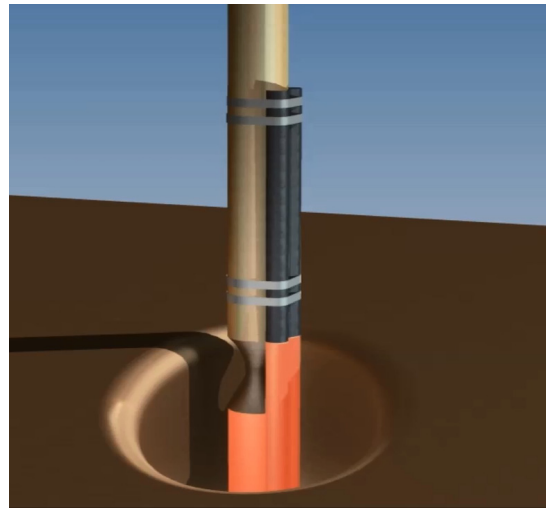
When bending loads are applied to a reinforced pole, they are transferred to the truss. The truss allows the bending loads to effectively bypass the decayed or damaged groundline area of the pole, transferring the loads to sound wood foundation below ground.



Wind loads create a bending moment at groundline.



The decayed area (in orange) is bypassed.



The bending load is transferred to sound wood foundation below ground via the truss.

Osmose Trusses: Engineered for Safety & Reliability

Osmose trussing systems are engineered for safety and reliability, and have been thoroughly tested and proven throughout their 50-year history. No other pole restoration system has a comparable history of success in actual field applications.

- Constructed to exceed NESC strength requirements; formed from 80,000 (C-Truss®) and 100,000 (C2-Truss™) psi yield strength steel
- Hot-dip galvanized to ASTM A-123 standards to ensure long-term corrosion protection
- Banding is the strongest in the industry at 138,000 psi tensile strength (minimum)
- Maintains positive contact with the pole butt below ground to properly transfer bending loads
- Wood poles are remedially treated to effectively control decay and ensure the longevity of the restoration

C-Truss Versus C2-Truss

The Osmo-C-Truss® systems typically restore transmission and larger distribution-size poles. The patented C2-Truss™ systems restore common distribution size poles with an optimized design that moves the shear center closer to the pole resulting in less twist under load, while utilizing higher strength steel for a lighter truss. The result is a more efficient, lighter weight, lower cost truss.



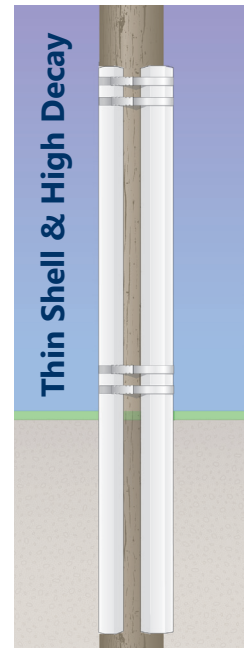
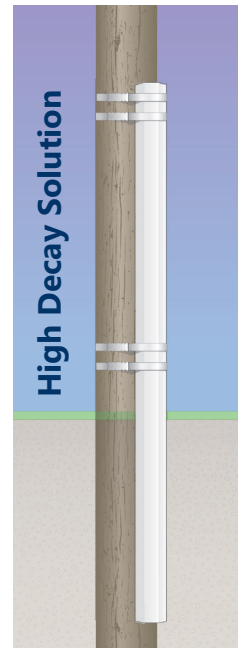
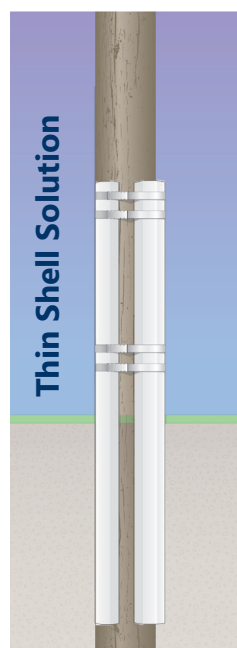
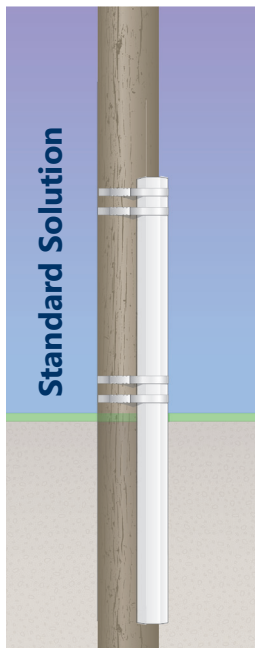
Common C-Truss Sizes	Theoretical Ultimate Strength
980	76,900 ft-lb
1080	94,900 ft-lb
1180	112,200 ft-lb
1280	129,400 ft-lb



Common C2-Truss Sizes	Theoretical Ultimate Strength
C2-36	37,200 ft-lb
C2-49	49,600 ft-lb
C2-56	56,400 ft-lb
C2-71	71,700 ft-lb

Trussing Options

Truss solutions can be adapted based on pole conditions. For more advanced decay (thinner shell applications), double trusses can be utilized to restore code-mandated strength. For decay that has progressed beyond standard installation heights, a taller truss is the best solution.



An Alternative to Trussing: FiberWrap™ II

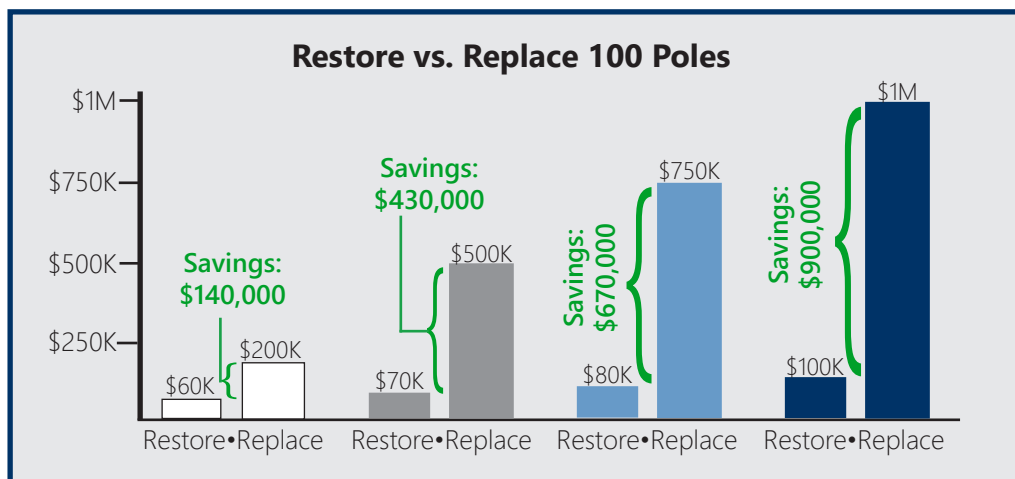
Osmose FiberWrap is a omnidirectional* and fully-scalable^ composite repair system ideal for:

- Poles with limited access
- Poles in areas where the restoration needs to match the appearance of a new wood pole

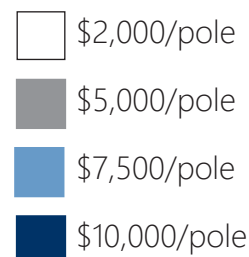
*same strength in all directions ^can accommodate poles with high decay and decay at varying heights



Cost Benefit Analysis: It Pays to Restore Versus Replace



Average Replacement Cost:



Osmose Turnkey Pole Restoration Services

As wood pole inspectors, pole reinforcement product designers, and installers, Osmose provides true turnkey wood pole management services to clients across the U.S. In fact, our skilled and trained technicians evaluate millions of poles each year, while ensuring C-Truss and C2-Truss solutions are properly specified and installed so that our customers receive substantial, long-term value from their pole plant investments.

System Hardening

Osmose wood pole restoration also acts as a system hardening solution by improving an overhead circuit's resistance to extreme weather events. Without the restored strength the truss provides to the weakened pole, the overall circuit is at greater risk of an outage during a significant weather event.

A utility's grid **resiliency** is positively affected with a robust pole inspection and restoration program. Weakened poles discovered during inspection and rehabilitated with an Osmose C or C2-Truss will help minimize the number of wood poles needing attention, as utility crews work to restore power to the grid after a significant weather event.

Upgrade Pole Capacity with the ET-Truss™

The Osmo-ET-Truss® works in conjunction with sound wood poles to create a combined capacity greater than the original pole class rating.

- Upgrade pole capacity by 1, 2, 3, or more classes.
- Save money - the cost is often 1/3 or less than the cost of replacement.
- Avoid the extra effort and delays associated with coordinating change-outs.
- Upgrade an entire line without service interruption.



50
Years

of **RELIABLE
RESTORATION**

Osmose Trusses: Long-Term Solutions, Not Short-Term Deferrals



Installed in 1967 - In service
50 years and counting!



Installed in 1968 - In service
49 years and counting!



Installed in 1970; new bands and
cover cap installed in 2008 - In
service 47 years and counting!

Ideal for Difficult-to-Access Poles



Poles in difficult locations such as hillsides, backyards or other difficult-to-access areas can be trussed to avoid costly, time-consuming replacements.

