Wood Pole Reinforcement Systems

Reliable, Long-Term Solutions for Extending Service Life

Osmose®

Resilient Grids. Strong Networks. Safe Energy.

Reliable Wood Pole Reinforcement

Osmose provides innovative and comprehensive solutions for reinforcing poles of all types. Our reinforcement options are designed to deliver better value, enable more poles to be reinforced, and provide an asset-preserving alternative to pole replacements.

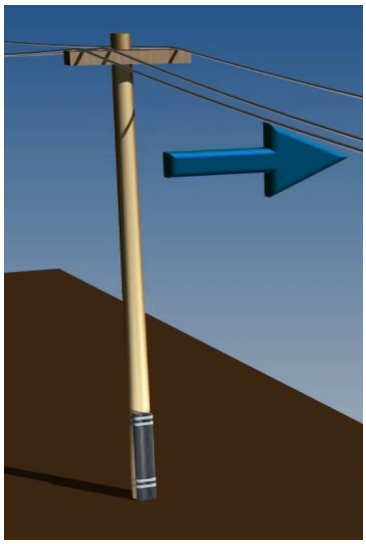
Osmose's non-intrusive wood pole reinforcing system delivers the following benefits:

- **Improved Resilience** - Restore original strength, upgrade strength, and improve resiliency of individual poles and line segments
- **Optimally Designed** - Engineered solutions tailored to the pole size, condition, load, and location
- **Superior Attachment Method** - Banding attachment method, without wood through-holes, maintains structural integrity and introduces no new paths for decay, resulting in longer life of reinforced poles over through-hole method.
- **Safely Installed** - Designed for safe and reliable high-volume installations, including hard to access pole locations
- **Climbable** - Osmose reinforced poles can be climbed safely (when safe climbing practices are followed)
- **Certification Available** - Engineering performance certification on installations available upon request; CPEng verified

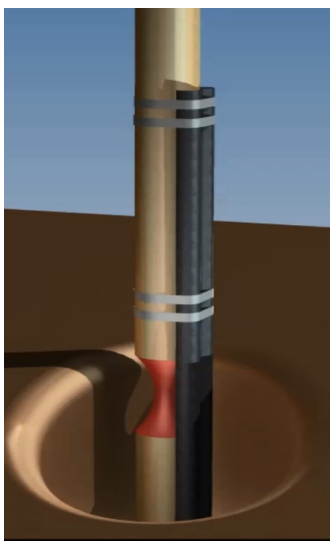
The Osmose system has extensive installations worldwide, including in Australia and New Zealand. The products have been thoroughly tested and conform to AS/NZS 7000.

How Trusses Work

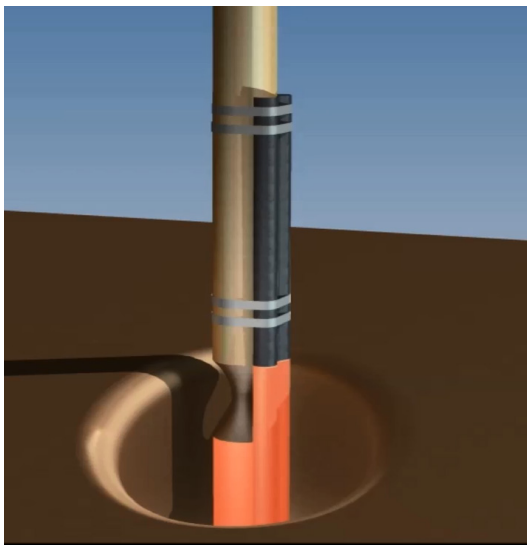
When bending loads are applied to a reinforced pole, they are transferred to the truss. The truss allows the bending loads to effectively bypass the decayed or damaged groundline area of the pole, transferring the loads to sound wood foundation below ground.



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 since they are engineered for safety and reliability, and have been thoroughly tested and proven throughout their 55-year history. No other pole reinforcement system has a comparable history of success in actual field applications.

- Constructed to exceed AS/NZS 7000 strength requirements; formed from 550 MPa (C-Truss®) and 690 MPa (C2-Truss™) yield steel
- Hot-dip galvanized to ASTM A-123 standards to ensure long-term corrosion protection
- Banding is the strongest in the industry at 950 MPa 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 reinforcement

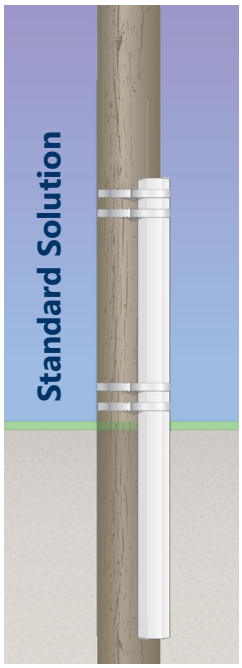
Trussing Options

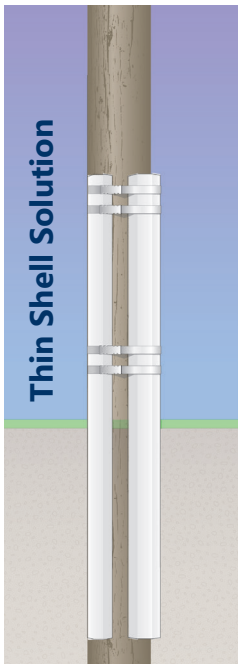
The patented C2-Truss systems restore common distribution size poles with an optimized design that moves the shear center closer to the pole resulting in less twist under load, while utilizing higher strength steel for a lighter truss. The result is a more efficient, lighter weight, lower cost truss.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

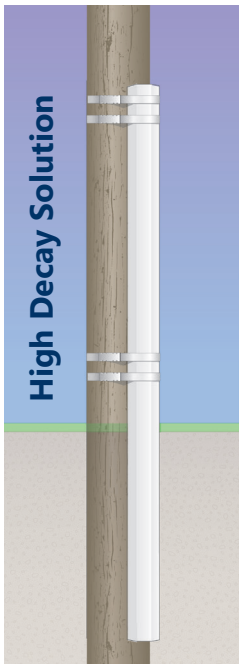
Common C-Truss Sizes	Theoretical Ultimate Strength
980	105 kNm
1080	130 kNm
1180	150 kNm
1280	165 kNm

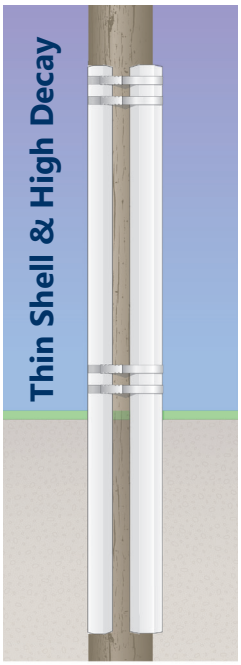
Common C2-Truss Sizes	Theoretical Ultimate Strength
C2-36	50 kNm
C2-49	65 kNm
C2-56	80 kNm
C2-71	100 kNm

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

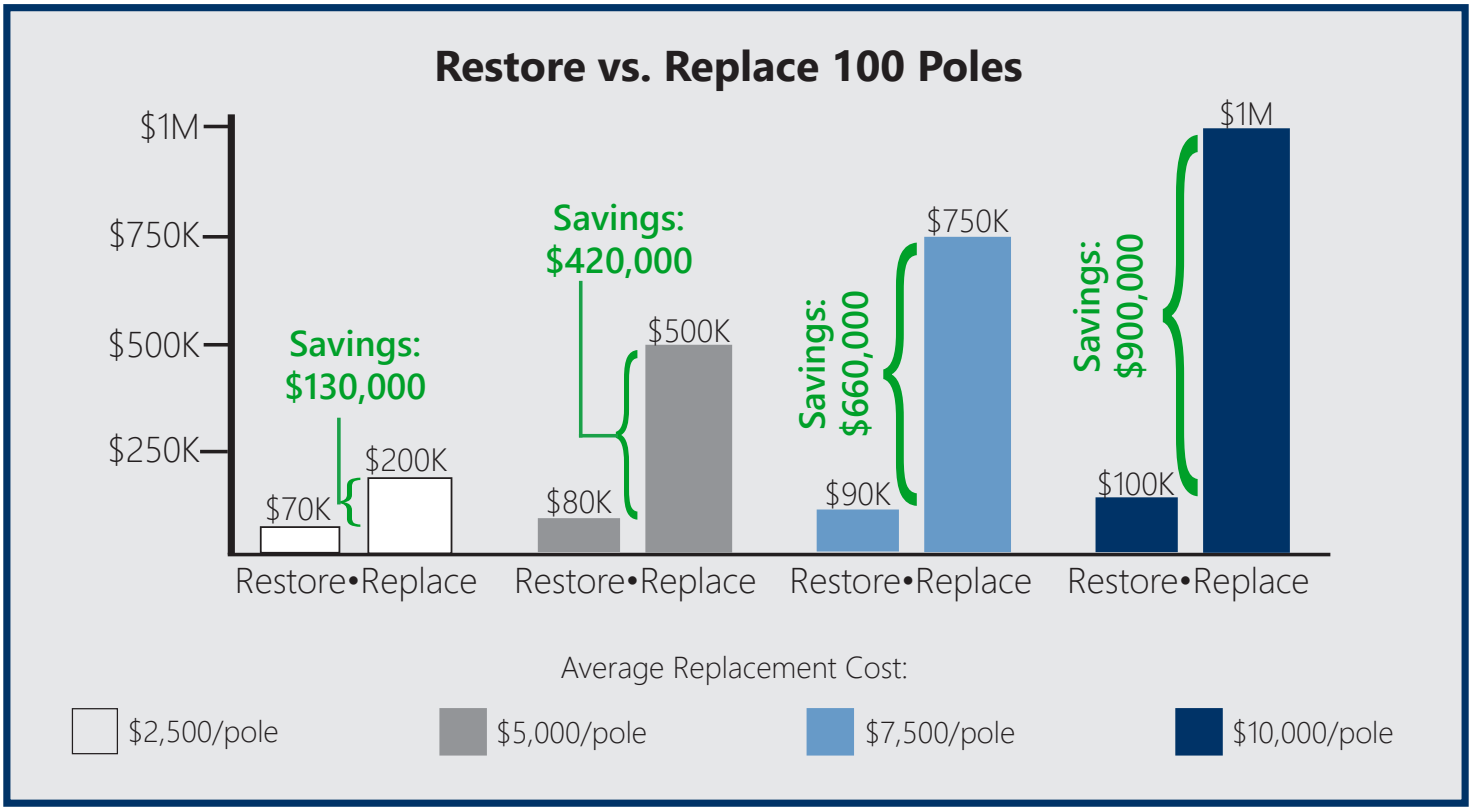








Cost Benefit Analysis: It Pays to Restore Versus Replace



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. In fact, our skilled and trained technicians evaluate thousands 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

Wood pole reinforcement also acts as an Osmose Structural Resiliency® solution by improving an overhead circuit's resistance to extreme weather events. Without the reinforced 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 evaluation and reinforcement program. Weakened poles discovered during scheduled evaluations 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.

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