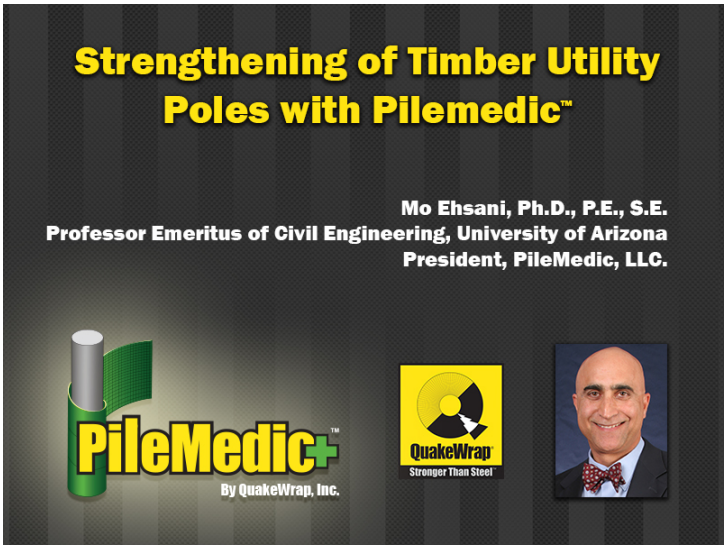

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In collaboration with Tucson Electric Power Company, we are testing a patented technology for insitu repair & strengthening of timber utility poles.

Timber utility poles weaken with age and often break and collapse during storms.

In collaboration with Tucson Electric Power, we are testing a patent-pending PileMedic™ system to repair and strengthen these poles.

A Class III 45ft- wood distribution pole was tested in the field.

The pole broke at approximately 5 feet above ground at a load of **1,070 pounds.**

The strengthening of the pole consisted of the following steps:

1. Provide longitudinal carbon strips along the height of the pole

2. Wrap the pole with PileMedic™ laminates or QuakeWrap® FRP fabric

3. Inject our low viscosity resin to fill all the voids and cracks in the pole

4. The repair covered the elevations from 2’-9” below ground to 25’-9” above ground. This procedure allows the pole to remain in service during the repair.

The strengthened pole was tested and it broke at a load of **2,400 pounds**, exactly at the point where the repair had stopped.

This load was 2 1/4 times the original failure load.

The broken pole was re-tested on March 12, 2014 by applying the load at 24-ft above ground which was 1’-9” below the point where the pole had broken before.

This time, the pole failed at a load of **3,200 pounds** and at a point 2-feet 9-inches below ground where the PileMedic™ jacket was terminated.

The end of the broken pole is shown here.

The 28.5 feet long portion of the pole that was wrapped with PileMedic™ remains undamaged and is shown in this photograph. We plan to test this piece as a simply-supported beam subjected to a concentrated load at midspan to determine its flexural capacity.

We are conducting additional tests to develop design guidelines for such repairs.

Please visit our YouTube Channel for more videos of our products.