

Utility Pole Climbing Trial

May 29, 2008

Conley, GA

One of the frequently asked questions about Wolmanized® CCA-ET® poles is how long does the shell conditioning last? Utility officials acknowledge the initial value of ET® treatment in enhancing pole climbability, but want assurance that the benefit is not short-lived. To address this question, a climbing trial was arranged to compare poles treated with pentachlorophenol, CCA, and CCA-ET after 20 years of exposure.

Test poles, installed in 1988 at the research facility of Arch Wood Protection, Inc., in Conley, GA, had been treated to normal industry standards with either penta, CCA, or CCA-ET (1.0 lbs./cu.ft.). Climbing trials conducted in 1997 (after 9 years exposure) and 2002 (14 years) indicated comparable ease of climbing between the penta and CCA-ET poles.

For the 20-year trial, eight linemen from three rural electric cooperatives participated: Snapping Shoals EMC (GA), Mid-Carolina Electric Cooperative (SC), and EnergyUnited (NC). Timber Products Inspection, Inc., an independent, wood products inspection agency, was retained to observe the trial and collect evaluation data. The trial took place on the afternoon of May 29, 2008, under cloudy skies with a recorded temperature of 78°F.

The average utility experience of the linemen was 11.5 years, with a range of 5 to 21 years. Their experience climbing CCA poles averaged 7 years (range of 2 to 21 years). The average weight was 188 pounds, with a range of 165

pounds to 225 pounds. Each of the eight linemen climbed each of 17 poles. Pole climbing gaffs were provided by the linemen and included Klein, Bashlin, and various Buckingham types. Climbers could recognize the penta poles by their color difference; the CCA and CCA-ET poles were indistinguishable

by color, and linemen were not informed as to which poles had which treatment.

Poles were rated on five measures – gaff penetration, insertion force necessary, withdrawal force necessary, climber confidence, and overall impression --

on a scale of 1-10 with 1 being unacceptable and 10 being excellent. Averaged ratings appear in Table A.

Combined values (Table B) for all measures showed that, after 20 years of exposure, linemen did not differentiate between the climbability of CCA-ET and penta poles. CCA poles without ET conditioning were not rated as highly.

Table B — Combined Values

Wolman® CCA	5.56
Wolman® CCA-ET	7.63
Pentachlorophenol	7.61

These results mirror those from the 9-year and 14-year trials, indicating that climbability of penta and CCA-ET poles is very similar and the climbing attributes of the ET treatment remained after 20 years of exposure.

Table A — Lineman Evaluations

TREATMENT	GAFF PENETRATION	INSERTION FORCE	WITHDRAWAL FORCE	CONFIDENCE	OVERALL RATING
Wolman® CCA	4.65	4.95	6.55	5.95	5.71
Wolman® CCA-ET	7.44	7.02	7.50	8.25	7.95
Pentachlorophenol	8.27	7.60	5.92	8.25	8.00

