

*All copper-based wood preservative technologies are not equal.*

# TREATED WOOD

# ALERT

Are you staking your reputation on unproven micronized copper preservatives?



Micronized copper preservative-treated stake after 9 months of ground contact

**Micronized copper** as used in MCQ and MCA (micronized copper azole) wood preservatives is solid, microscopic copper carbonate particles suspended in water. Micronized copper was introduced to the market in 2006, with little to no published field data to support its performance.

**Soluble copper** as used in alkaline copper quaternary (ACQ) and copper azole (CA-B) wood preservatives is copper that is typically solubilized with an amine solvent. More than 60 years of global field-testing and real-life performance show that solubilized copper works.

## Viance study finds evidence of premature decay and failure in micronized copper-treated wood.

### What Prompted Our Research

We didn't set out to make an industry statement. Instead, our Viance team embarked on a study to answer our own internal questions. The initial results from our ongoing field tests startled and, quite frankly, concerned us. And now, as a responsible supplier, we are sharing our findings with the industry.

When micronized technology was introduced to the market, some scientists expressed concern about whether micronized copper used in wood preservatives could penetrate the cell walls of the wood to prevent soft rot. In the absence of any comprehensive scientific literature of the comparative performance of the micronized copper systems, our scientists also had such concerns. Therefore, we started our own scientific field tests to address not only our questions, but also the performance of micronized preservative-treated wood in general. Our multi-site study compared micronized copper (MCQ) to solubilized copper (ACQ), using commercially available wood.

#### Study Methodology (February 2007 – ongoing)

##### Internationally Recognized Test Locations:

Decay test site in Hilo, Hawaii

Termite test site in Hilo, Hawaii

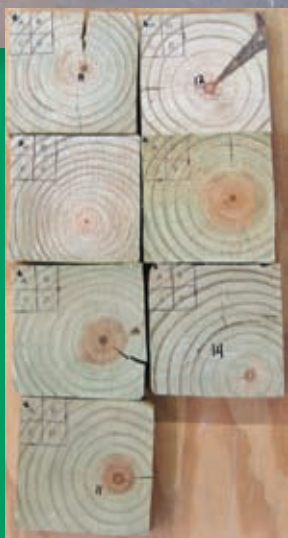
Decay test site in Tanegashima, Japan

##### Wood Samples:

- ▶ Treated wood (4x4s) was purchased commercially from two major retailers and was labeled for ground-contact applications with a retention of 0.40 pcf. End tags indicated that all the wood was subject to inspection/ monitoring by third-party accredited agencies.
- ▶ Stakes were cut from each 4x4, avoiding heartwood and knots.
- ▶ Copper penetration and lack of heartwood was confirmed using standard indicator solutions.
- ▶ Retentions were verified by chemical analysis.

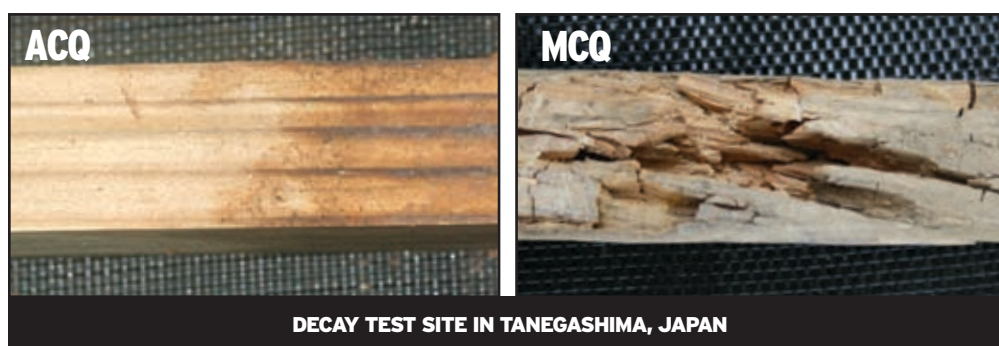
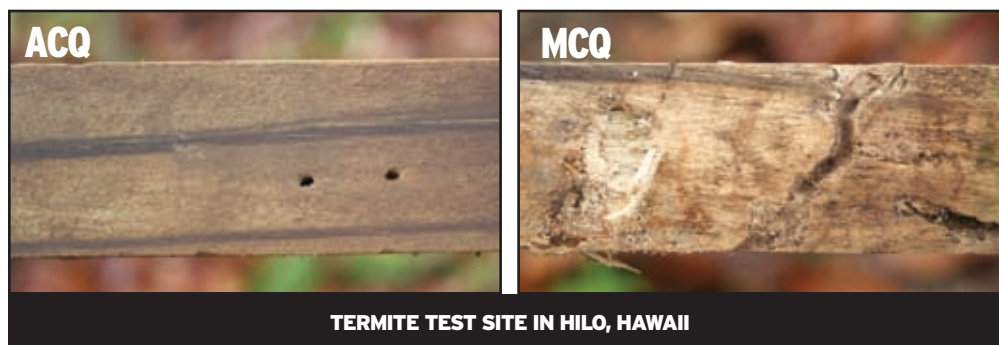
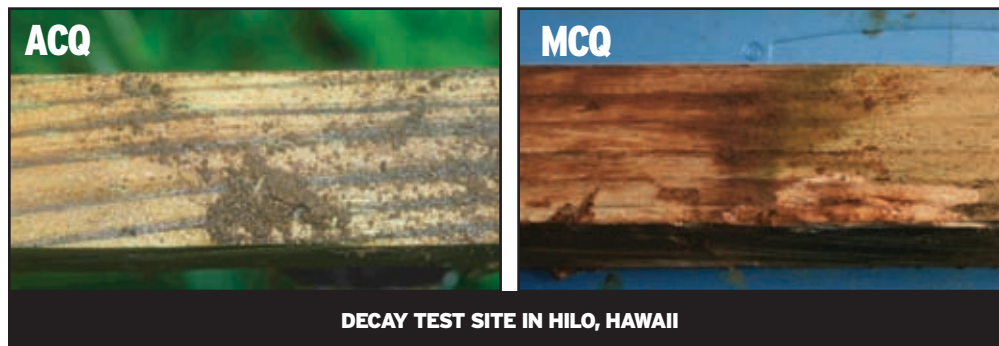
##### Procedure:

- ▶ Stakes were installed in the ground at the three test sites and inspected by an independent wood scientist after nine or 10 months exposure.
- ▶ The study is ongoing.



# Independently Verified Field Test Results

In all three field sites, there were several stakes treated with micronized copper (MCQ) that showed premature decay. The stakes treated with soluble copper (ACQ) showed no decay. An independent wood scientist, Dr. Darrel Nicholas, inspected the stakes at the Viance decay test sites and verified these findings.



Viance's test results to date suggest that micronized copper is not sufficiently active as a fungicide in wood preservatives. The independently verified field tests suggest that micronized copper (MCQ) does not provide adequate protection against premature decay in wood products, particularly in ground-contact applications. This premature decay could lead to early product failure of treated wood in service. Implications for aboveground applications are still unknown.



## All copper-based wood preservative technologies are not equal.



Long standing scientific evidence indicates that soluble copper treatments effectively hinder the growth of decay fungi – critical to the preservation of wood, especially in ground-contact applications. Viance found no basis to assume equivalent performance between soluble and insoluble (or micronized) copper systems. In fact, Viance’s independently verified field tests raise serious questions about the effectiveness of micronized copper as a fungicide in wood preservatives.



Understanding how today’s copper-based wood preservatives work – and looking closely at manufacturers’ claims about performance – is essential to meeting customer expectations and avoiding premature, and potentially serious, product failure.

**Get the latest information from Viance field studies about micronized vs. soluble copper wood preservatives.**



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