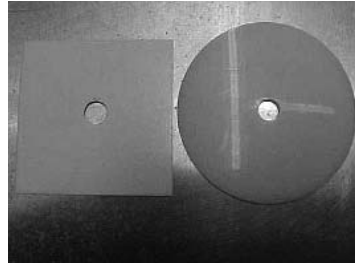
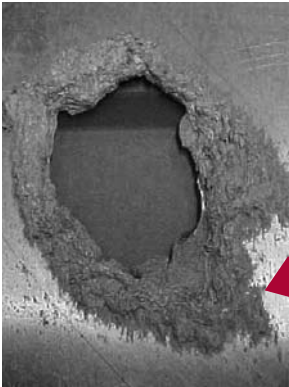


Wood preservative corrodes signs

ALUMINUM SIGNS started falling off their wood posts in less than a year after WisDOT switched to posts treated with ACQ (Ammoniacal Copper Quat). Previously, they had used posts treated with the preservative CCA (Chromated Copper Arsenate). The change took place about two years ago because of a US EPA requirement.

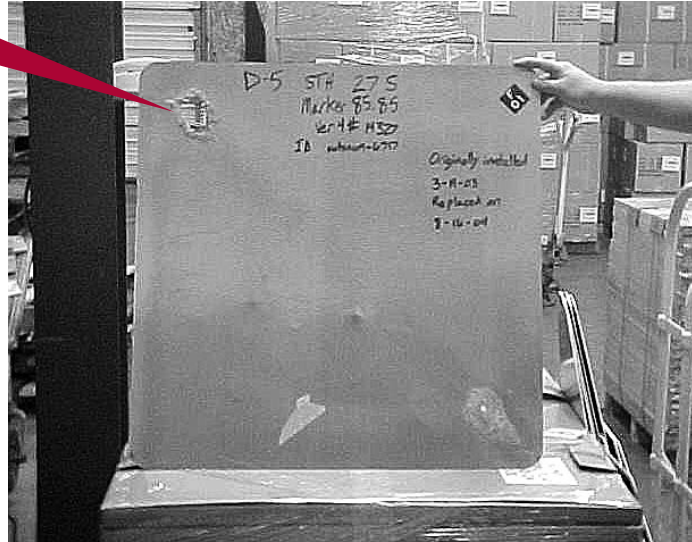


Putting a plastic spacer behind sign will protect it.



Copper in wood preservative corrodes aluminum signs.

“We’re also recommending use of stainless steel lag bolts and washers to mount the signs.”



If you have questions about this issue, contact Matt Rauch at 608/266-0150.

“The problem is the copper in the preservative reacts with the aluminum in the signs,” says Matt Rauch, WisDOT State Signing Engineer. “Where CCA has about 16% copper, ACQ has 66%.”

As of December 2004 WisDOT has returned to using only CCA treated posts and is alerting municipalities and signing contractors to the problem. Some counties have also reported the problem, which also affects wood guardrail posts and bridge timbers.

First, find out if you have a problem. Check posts in stock, invoices or posts in the field for the type of preservative. They will have a tag on one end specifying the treatment (“ACQ” or “CCA”). If you have a sign inventory, you can locate wood posts installed since ACQ sign posts became widely available in 2002.

Removing posts is not necessary, Rauch says. “We have 25,000-30,000 signs already on these

posts.” You can seal signs that are corroded, if the base material is still good, by cleaning with a wire brush and spraying with XIM-400, or equivalent product, which is a clear metal primer for aluminum. Then put plastic or foam spacers between the sign and the post. DOT is using 3½” x 3½” square plastic spacers.

“We’re also recommending use of stainless steel lag bolts and washers to mount the signs,” Rauch says. “We have seen corrosion and deterioration on galvanized bolts and washers.” You can use up existing stocks of ACQ-treated posts by installing signs with spacers and stainless hardware.

Municipalities and state agencies can purchase CCA-treated wood for roadway uses. However, EPA has not eased its rules for residential uses; ACQ treated wood is required for wood decks and other home projects.

California study: low cost sign fixes make rural roads 41% safer

IN JUST SIX YEARS, total crashes dropped from 601 to 348 on 676 miles of rural low volume roads in Mendocino County, California. At the same time, crashes rose by 27% on comparable roads not included in the safety project. This spectacular improvement owes much of its success to regular safety reviews and upgraded signing.

“It was nothing scientific by any means,” says Gary Kennedy, Manitowoc County Highway Commissioner. “It was a matter of reviewing their roads, looking at the crashes, and putting up the right signs.” He and Commissioner Roger Laning, Sheboygan County Highway Department, attended a national rural road safety meeting in Mendocino County last September.

“They just did the things we’ve known for 20 years should be done,” Laning agrees. “Get the signing in good condition—checking for placement, proper marking, making sure the signs were reflective—and reviewing crash data. The same things are covered every year in our Highway Safety workshops.”

The TIC Highway Safety workshops, held February 21-March 1, review the basics of signing and marking, highlight good sign installation and maintenance practices, and help participants identify roadside hazards to improve local road safety. (See Calendar, back page)

What Mendocino County did

Mendocino County lies in a mountainous region on the north coast of California. There is no town government so the county manages the rural roads; nearly all are winding and hilly; 40% are

gravel. With no money available to pave, straighten roads, or realign intersections, the county DOT had to take a low tech, low cost approach to making their roads safer.

They invested \$8,000–\$10,500 a year in annual, systematic safety reviews that covered a third of the county and about 220 centerline miles of road. In a three-year cycle they reviewed 676 road miles, examining all the arterials and collectors, and selected local roads chosen through crash records. In addition, improvements cost an estimated average of \$100/sign.

The county Traffic Engineer first reviewed accident reports and maps to identify patterns in locations, causes or types of accidents. He prepared a paper record for each road marked with locations of particular interest. Driving the road, he used a tape recorder to describe deficiencies, locations, and recommended corrective actions. The notes were transcribed later into a database.

In the first three years of the project, they identified and corrected significant deficiencies, concentrating on improved signing for curves and turns. This produced a decrease of 34% in total

crashes. Other improvements in the second three year cycle resulted in an additional 8% reduction.

What you can do

Start by making safety a priority. Learn to identify common roadway safety and signing hazards by attending the TIC workshop and reviewing the TIC's *Safety Evaluation and Rating (SAFER) Manual*.

This spring, when you rate pavement conditions, set aside time to rate some roads for safety as well. It is especially valuable to review crash data on roads chosen for maintenance or improvement work in the coming construction season. You can include safety improvements at little extra cost. You could also review the most heavily used corridor, choose your community's main arterials, or select a group of roads based on crash frequency.

Each county has a Highway Safety Committee which meets quarterly and a DOT highway safety coordinator attends each meeting. The committee should ask the safety coordinator for an Excel spreadsheet listing all crashes in the county. The data can be sup-

plied on a computer CD. All crashes reported in the county are listed by road name with data on type, location, driver, weather, and roadway characteristics. Data for 2004 will be available in March or April 2005.

On low volume roads you will need to look at data from a 3-5 year period in order to spot patterns and trends. You should be able to get this data for any group of roads from the county or District in electronic spreadsheet format.

"Most town road intersections may not have enough traffic or crashes to calculate a statistically valid crash rate, but the listing can still be used to compare one intersection to another," says Richard Lange, WisDOT Safety Analysis Engineer. "You could get some idea of what's good or bad, however."

Early next year his office will be publishing tables which give some guidance on what is a "normal operating crash rate" at an intersection. By comparing local crash rates to those in the table, you may be able to identify local intersections with higher than "normal" crash rates.

Just do it

You can make your roads significantly safer at almost no extra cost. Do it by looking at signs all the time, and while you are doing other things. Make it a continuous process. Any time you look at a road, no matter what the reason, look at signs too; just always do it.

"You don't need crash data to go out and look at signs and keep them in good shape," says Gary Kennedy. "Look for locations that are obvious to anybody — curves, turns, blind intersections. There is a pay back for this. It is simple, low cost, and it can make a difference."



"It was nothing scientific by any means. It was a matter of reviewing their roads, looking at the crashes, and putting up the right signs."



Improved signing on curves and turns cut crashes 34% in Mendicino County.

Signing for Local Roads, TIC Bulletin No. 7, is a good general introduction to when, where and how to use signs.

The SAFER Manual offers a practical, systematic approach to identifying safety hazards on local roads. Both are available in print from TIC and on the TIC Web page.