

Letters

Hardware Corrosion From PT Lumber: Looking for Answers

I've been a professional builder and contractor for 20 years and am glad somebody finally has enough sense to develop a less corrosive treatment ("Pressure-Treated Wood: The Next Generation," 4/09). In 2005, I built my own vacation house on San Juan Island here in Washington. ACQ lumber had not been on the market for long, and I'd already had some experiences with the extreme corrosion it causes. Using lumber that corrodes metal connectors made no sense to me, so before starting construction I negotiated with the local building inspector to use an alternative material for the mudsills, but he refused. (If I remember correctly, the Zmax hangers recommended at the time cost around \$4 each, versus less than \$1 each for standard hangers. Now it turns out that even triple galvanizing isn't really adequate, and stainless is the only really safe thing to use — at over \$7 per hanger.)

During the framing of the San Juan house, I had to move a door opening; it was in a shear wall and had a big hold-down (HD8A) next to it that needed to be moved, so it required engineering approval. I reframed the doorway and installed a new epoxy-grouted anchor and hold-down. I cut off the existing anchor bolt — a 7/8-inch galvanized SSTB. It had been in contact with the ACQ plate for about two months — it was the rainy spring season, so it had been almost constantly wet — but already it looked like it came from a 19th-century shipwreck. There were no threads left where it passed through the plate, and I estimated the corrosion had eaten 20 percent of the diameter. (Per code, if the bolt is over 1/2 inch in diameter, you don't even need galvanizing! That's a joke.)

That was four years ago. Then recently, after reading your article, I climbed into the crawlspace and pulled some toenails out of a kneewall. The 10d nails had been driven through untreated 2x6 studs into ACQ-treated

plates. The nails were hot-dipped galvanized, as recommended at the time. What I found was very scary, since the shear strength of a nail is obviously a function of diameter: These nails had maybe 25 percent of their diameter left.

Do I have some weird super-corrosive condition going on here, or are all the houses built since 2004 now ticking time bombs? Not only are the studs no longer effectively nailed to the plates, but the anchor-bolt shear strength is shot, and the plywood nailing into the plates along the base of the shear wall is worthless. When the big one hits, all the engineering and effort to strengthen a house for earthquakes is no better than the connection to the foundation — which, based on my observations of this house, will be nonexistent in a few more years.

Does anybody have any answers for this? Is anyone in the industry really looking at the ACQ corrosion issue as it concerns the multitude of houses, remodels, and decks that have been built using treated lumber since it was forced down our throats?

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Upside-Down Beam Design

As a structural engineer specializing in residential improvements, I've designed quite a few upside-down beams in attics, so Yves Vetter's article interested me and raised a couple of concerns ("An Upside-Down Beam," *On the Job*, 5/09). The small clips shown hanging the ceiling joists from the new beam are very close to the loaded edge of both the joists and the beam. Depending on the loads involved, this could be a concern. Fortunately, it appears that these clips were provided on both sides of the beam.

With a relatively low-slope roof like the one in this project, the construction appears to be relatively stable, although I miss the blocking that I would typically install in at least every other rafter space. On steeper roofs, the stability of a taller cripple wall on top of the new beam would be a real concern.

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KEEP 'EM COMING!

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