

## Chinese Drywall

The past few issues of *The Greenfield Advisor* have dealt with real estate investment, marketing, and economics topics. Please excuse us if we return to a litigation topic — specifically, the very “hot” issue of Chinese Drywall.

We would emphasize “hot” as something of a pun. While drywall imported from China may have made its way into as many as 41 states, the problem is first being manifested in the gulf-coast region, where temperatures (and a building boom) have exacerbated the problem. Greenfield has authored a white paper on the subject (John Kilpatrick and Chris Miner), and John Kilpatrick presented a paper at HB Litigation Conference’s Chinese Drywall meeting in New Orleans last month. This issue of *TGA* is taken from that, as well as new issues which are coming to light on nearly a daily basis.

For more information, please download the white paper, <http://www.greenfieldadvisors.com/publications/drywall.pdf>

### So what do we know?

The science and empirics are moving daily, and the facts are still coming to light. Apparently, in the early years of this decade, as the housing boom was in full-swing, domestic drywall plants simply couldn’t keep up. Now, if you’re not familiar with drywall, it’s what the interior walls of most houses, offices, and retail establishments are covered with. The drywall comes in a large sheet (either 4’ X 8’ or 4’ X 12’) and is usually either 1/2 or 5/8 inch thick. As such, it resembles a sheet of plywood, but it’s quite heavy and not quite as durable. It has generally replaced raw plaster as a wall covering in the U.S. “Gypsum Board”, as it’s also called, was generally developed between 1910 and 1930, and consists of a layer of gypsum plaster covered on both sides with a thick layer of paper. Raw gypsum (calcium sulfate) is mined and mixed with some sort of fiber (often paper or fiberglass), as well as various additives to increase resistance to mildew and fire.

Drywall has become popular, because plastering was a time-consuming process requiring very specialized skills. While drywall work is also a specialized construction trade, it requires fewer expert technicians and is much quicker to install. Additionally, removing, replacing, or working with drywall is much easier and cheaper. Hence, retrofitting or repairing a drywalled house is much easier than working with plaster.

Drywall sheets are applied directly to the studs or ceiling joists, usually with screws or drywall nails. Drywall may be applied either to wood or to metal, and can also be applied to concrete walls or other non-traditional backings. The unfinished drywall is slightly off-white (the back side is grey, and covered with thicker, coarser paper) and the joints and nail/screw heads are covered with a joint compound, which after it dries can be sanded to a smooth finish. Holes are cut for pre-installed mechanical outlets (electrical boxes, plumbing hookups, heat-and-air vents, etc.) and trim materials can be nailed directly over the gypsum drywall.



Source: *Wikimedia.com, public domain*

North America is both a voracious consumer of drywall as well as a robust manufacturer. According to a white paper produced for the U.S. Geological Survey, domestic drywall production as of 2001 was about 29.5 billion square feet (about 24.3 million metric tons) and had a value of about \$2.25 Billion. World trade in sheetrock was fairly small, and only four countries (Canada, Mexico, Spain, and Thailand) imported over \$500,000 worth of drywall that year. Most countries produced their own.

However, a spike in homebuilding, coupled with the demand for drywall in the aftermath of several hurricanes, left the U.S. without adequate domestic sources in the middle of this decade. In 2005, we imported less than 1,000 tons into the U.S., but this spiked to 250,000 tons in 2006. The primary provider was the German firm of Knauf International GmbH, which imported the drywall from three manufacturing plants in China.

The rest of this gets a bit murky. Rather than using pure gypsum and other additives the way it's done in the U.S., apparently the Chinese plants used fly ash, the residue from coal-burning power plants. Fly ash contains many compounds known to be dangerous to human health, including chromium, lead, and arsenic. In addition, the Chinese drywall appears to contain high quantities of sulfur, not unexpected given the source of the fly ash. As such, the sulfur out-gasses from the drywall, and forms compounds which both smell bad and damage the metal materials in houses. Indeed, one of the first signs of Chinese drywall is the smell, followed closely by failure of the heating and air conditioning units (due to catastrophic failure of the copper tubing) and the electrical wiring (due to corrosion)



Source: WPLG-TV



Source: *chinesedrywall.com*

The physical science issues are still being worked out, and property owners may be in the dark over whether or not they have Chinese drywall in their homes. According to the most recent reports, the Consumer Products Safety Commission (CPSC) has received over 681 complaints from residents of 20 states, although most of these (510) have come from Florida. Along with the odor and the damaged electrical systems, consumers are reporting eye irritation, sinus problems, and respiratory symptoms. Reportedly, tests by the CPSC have shown that the Chinese drywall also contains elevated

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levels of strontium sulfide, as well as several organic compounds. According to a *Los Angeles Times* investigation, Chinese drywall manufacturers used phosphogypsum, a radioactive substance which has been banned for use in construction in the U.S. since 1989.

The Florida Department of Health has also received over 330 complaints as of May, involving homes built between 2004 and 2007. Florida ordered a study from independent laboratory Unified Engineering Inc., which found that some samples of Chinese drywall contained volatile sulfur compounds which, "...in the residential atmosphere created a corrosive environment in the presence of moisture."

According to reports from the Gypsum Association, cited by CNN, enough drywall was imported from China to build 30,000 homes. Given that much of the drywall was used for repair and rehab work after the 2005 hurricane season, some estimates put the number of affected homes at 100,000 (*Fox News, April 11, 2009*). In addition to the CPSC, the Environmental Protection Agency and the Centers for Disease Control and Prevention are also conducting studies.

## The Economic Melt-Down

Further complicating matters is that some of the major responsible parties are in financial distress. WCI Communities was one of the first to acknowledge using Chinese drywall in their homes. However, WCI is in bankruptcy, and in papers filed with the bankruptcy court on July 2, disclosed as many as 200 homes that may include Chinese drywall. To date, WCI has set aside \$11 million to handle such claims. WCI has also set up a trust which would be able to file lawsuits against the drywall manufacturers and other responsible parties.

WCI is not the only potentially responsible party. Lennar Homes says that at least 400 houses built in Florida have drywall issues, and they've set aside \$39.8 million to repair these problems.

## Legal Issues

While the science is still "out", the legal issues are evolving rapidly. There have been two major legal conferences on the subject, one in Orlando in May and one in New Orleans in June. *Note: Dr. John Kilpatrick of Greenfield was a featured speaker at the New Orleans conference, sponsored by HB Litigation Conferences.* Several key points are rapidly evolving:

1. U.S. Judicial Panel on Multidistrict Litigation agreed to consolidate a number of the suits in the U.S. District Court for the Eastern District of Louisiana. The suits have named as defendants the Chinese-based manufacturers, as well as importers, contractors, suppliers and others, including Knauf Gips KG, Knauf Plasterboard Tianjin Co., Taishan Gypsum Co., L&W Supply Corp., USG Corp. and Lennar Corp., the country's second-largest home builder by volume. Judge Eldon Fallon will preside. *Regular readers of The Greenfield Advisor may recognize Judge Fallon from the Hurricane Katrina litigation.*
2. One key issue for defendants will be whether the pollution exclusion applies. Insurers will argue that any off-gassing of sulfur constitutes the sort of discharge usually cited in such clauses. One builder (Dragas Management) has already been named in a declaratory judgment action by its insurer, Builders Mutual Insurance Co. In addition to relying on a pollution exclusion argument, insurers seem intent on showing that each installation of drywall constitutes a separate "occurrence" under the policy, and as such, a separate deductible would apply to each. Builders would undoubtedly prefer a single deductible for the installation within an entire development or project.
3. In early July, Judge Fallon issued several pre-trial orders, among these Order #3 designated Russ Herman as the Plaintiffs' Liaison Counsel and #4 designated Kerry J. Miller as Defendants' Liaison Counsel.

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## Valuation Issues

Greenfield's White Paper (see link on page 1) provides a starting point for valuation issues. Appraisers valuing any home in a potentially affected area (particularly Florida and the other Gulf Coast states) which was either constructed or substantially remodeled in since 2000 (and particularly in the 2004-8 period) will be a potential candidate for Chinese Drywall issues. Appraisers and building inspectors will need to be particularly observant of visual clues, such as corroding A/C coils, cook-top elements, copper plumbing, or wiring, or the label "Knauf" on the back-side of exposed sheetrock. The most obvious red flag in a home inspection will be the sulfur smell.

However, not all homes will evidence either odors or visual clues, and home inspectors rarely get a chance to look at the back-side of sheetrock, exposed wiring, or a/c coils. Properties suspected of Chinese drywall issues, or in neighborhoods with homes impacted by Chinese drywall, may evidence market reactions consistent with stigma, including:

- Longer marketing periods
- Increased marketing costs
- Institutional controls
- Disclosure requirements
- Pricing problems

Naturally, not all impacted homes will evidence these problems. Many — in fact, probably most — affected homeowners are unaware that the problem exists, and so many buyers of affected homes will likely be unaware of the issues. Most residential appraisers and inspectors will be well advised to bring expert assistance in on these projects, and to recognize that the diminution in value is probably different from the simple cost-to-cure calculation.

## Some News from Greenfield

Greenfield is terrifically proud to announce that Andy Krause and Dr. Max Kummerow are this year's winners of the American Real Estate Society's award for Best Research Paper Presented by a Practicing Professional for their work, "Mimicking Sales Comparison Pricing Models: An Approach to Mass Appraisal Modeling with Validation by Prediction Error Summary Statistics". Their paper was presented at ARES annual meetings in April. I'm sure we'll see their article published in a major journal in the near future.

We also want to welcome two "newcomers" to Greenfield's team here in Seattle — Sarah Tharp and Kari Paakaula. Sarah joins our research staff, and is a recent graduate of Washington State University in International Business. As part of her degree program, she studied in both China and Switzerland, and is fluent in Italian. Kari is filling the much-needed (and too-long vacant) role as my Executive Assistant. Prior to joining us, she was in the same capacity at a large private-equity investment house here in Seattle, and brings a wealth of experience to the job.

I'd also like to mention a bit of a personnel change here at Greenfield — John Casker has split his time between project coordination and client relations for several years now. Starting immediately, John will focus all of his attention on Client Relations, and all of our marketing efforts (both for Greenfield Advisors and Greenfield Capital Management) will consolidate under him. I encourage you to contact him with any questions you might have — [jcasker@greenfieldadvisors.com](mailto:jcasker@greenfieldadvisors.com).

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