



**NARI
Remodeling
Expo
Feb. 4-6, 2011**

2011 NARI Remodeling Expo

Friday, February 4th - 2:00 pm to 7:00 pm
Saturday, February 5th - 9:00 am to 6:00 pm
Sunday, February 7th - 10:00 am to 4:00 pm

Marriott Madison West
1313 John Q Hammons Dr.
Middleton, WI 53562

Chad's Expo Seminars

Understanding the Building Code as a Political Document: Why Buildings Often Waste Lots of Energy, but Rarely Fall Down

Saturday, Feb. 5th - 11:00am, Middleton Room
Sunday, Feb. 6th - 11:30am, Middleton Room

Case Studies in Energy Savings for a Variety of Remodeling Projects

Saturday, Feb. 5th -12:30pm, Milwaukee Room
Sunday, Feb. 6th - 2:15pm, LaCrosse Room

CHAD'S CARPENTRY

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Monona, WI 53716

608.221.1799

Visit us on the web at:
www.ChadsCarpentry.com

- Additions
- Design
- Kitchens / Baths
- Basements
- Attics
- Porches
- Windows / Doors



Why we Support Higher Standards in our Industry

Imagine if homes were constantly collapsing, and injuring or killing occupants. Would the general public accept this, allowing the "marketplace" to weed out shoddy builders? The fact is that we have excellent codes and regulation of the structural components of buildings. I would say that our structural codes are actually onerous and burdensome, adding lots of cost, but I do not complain about it, since the trade off is pretty obvious.

Unfortunately, our code requirements and inspections relating to energy efficiency and air quality are nothing like our structural requirements, and homeowners are paying for it with less comfort, higher utility bills, and unnecessary problems such as mold, moisture, or poor indoor air quality.

In our next issue, Chad will explore the history of building codes in the United States, from the earliest structural codes, to the development of energy codes at the end of the twentieth century. There are many important reasons to support higher energy standards for buildings. Chad will explore the reasons that he supports higher standards, and explain why these reforms have been historically resisted by builders' associations.

(Chad will be presenting a seminar on these topics at the 2011 Nari Expo - see sidebar.)

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NEWS and RE-!NOVATIONS from **CHAD'S CARPENTRY**



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winter 2011

Case Studies in Home Performance

Since 2002, Chad's Carpentry has remodeled and improved scores of homes in partnership with the Home Performance with Energy Star® program. Our goal has always been to maximize comfort, durability, and energy efficiency for our clients, while primarily improving the functionality and beauty of each home. Before and after photos suggest that we are accomplishing our primary goal, but what about the "before and after" utility bills?

We know that our post-project Home Performance data has been great, achieving much tighter homes while also improving ventilation, but power bills are perhaps the best way to assess the impact of our efforts. To obtain actual data, we started to request energy data from our customers in 2009, for projects completed in the last few years. The results are impressive.

Getting the data:

- Clients must contact their utility to release utility bills for the 5 year period surrounding the project (a project in 2008 would ideally get assessed with power bills from 2006 to 2010)
- These utility bills (60 months of data) can be mailed directly from the utility to Chad's Carpentry for inclusion in our ongoing analysis.
- New homeowners are often unable to obtain energy data prior to ownership. If you want us to assess your home, but you purchased the house just prior to the remodeling project, consider contacting the previous owner to obtain the data.

Limitations and variables:

- Were the habits of the homeowner comparable prior to and after the remodel?
- Was the thermostat setting the same? Was a programmable thermostat added?
- Was a pellet or wood-burning fireplace added or removed?
- The following remodeling tasks have the greatest impact on energy efficiency:
 - Performing air sealing (air-tightness of the shell)
 - Adding insulation (thermal resistance of the shell)
 - Improving window, door, and hatch seals
 - Installing higher efficiency appliances
 - Installing higher efficiency lighting
 - Occupant habits (turning off lights, for example)
 - Phantom loads from chargers and stand-by items

We try to track these variables to understand the data better. If we are lucky, changes are made years apart, so that we can isolate and discern the impact of insulation improvements to the impact of a new furnace, for example. If upgrades happen at the same time, we have no exact way of knowing the impact of each improvement.

(continued on page 2)



**Quality
Craftsmanship™**

IN THIS ISSUE

- 1 Case Studies in Home Performance
- 2 Meet our Staff
- 3 Air Quality AFTER the Remodel
- 4 Supporting Industry Standards

**Chad Speight, CR
NARI Certified Remodeler**

**Chad's Carpentry
608.221.1799**



www.ChadsCarpentry.com



Proud Partner with Home Performance with ENERGY STAR®



Partner with Green Built Remodeled Home

Case Studies in Home Performance

The results have been impressive:

- For the 11 projects which have sufficient data for analysis, we reduced heating bills by 22 to 53 %.
- On average, our efforts have reduced heating costs by 39.4%.
- Consistent with typical energy assessment standards, we look at the BTUs/square foot/degree day to determine how efficient a house it. Thus, if our remodeling project alters the heated square footage of a home, then the results account for the fact that more space is being heated.

We have transformed many old, leaky houses into high performance homes that would likely qualify for Energy Star® certification if they were built new. But in reality, we still have a lot of potential for improvement.

In our next issue, we will explore the Passivhaus movement in Germany; these houses are so efficient that you may not need a furnace in Wisconsin.

Project #	Pre-Project	Post-Project	Actual Reduction in BTUs	Improvements to Attic Lid	Improve Wall Cavities	Exterior Foam Sheathing Added	Furnace Upgrade	Windows Upgrade	Comparison to Minimum Passive-Haus Efficiency Standards
1	4.85	2.96	39%	2-Part Foam	Partial	As is	No	Partial	4.22
2	5.46	2.64	52%	Seal, Cellulose	As is	As is	Yes	No	3.77
3	6.01	3.87	36%	2-Part Foam	Partial	As is	No	Partial	5.52
4	4.92	2.43	51%	Seal, Cellulose	Partial	As is	No	Partial	3.47
5	4.78	2.88	40%	Seal, Cellulose	All	As is	No	Yes	4.11
6 (phase 2)	4.19	3.23	23%	2-Part Foam	Foam	2"	No	Partial	4.61
7 (phase 1&2)	6.84	3.23	53%	Seal, Cellulose	All	2"	No	Partial	4.61
8 (phase 1)	6.84	4.19	39%	Seal, Cellulose	All	As is	No	Partial	5.98
9	8.42	5.01	40%	2-Part Foam	All	1"	No	Yes	7.15
10	5.75	4.46	22%	Soyfoam	Partial	As is	Yes	Partial	6.36
11	6.44	5.03	22%	Seal, Cellulose	As is	As is	No	Partial	7.18

Our Fabulous Staff

Dave Foley - Project Manager

Dave's favorite things are spending time with grandkids and family and riding his motorcycle trike...not necessarily in that order. Daily activities besides work – hitting the gym at least 5 days a week for a workout to hopefully keep old age at bay!

Scotty Johnson- Production Manager

Scotty and his wife Carrie have three kids; Brianna 20, Cody 15, and Kyle 13. He enjoys bowling once a week on a league in Sun Prairie and bowling with his wife and kids whenever possible. Scotty is in the middle of working on a ten year hobby of small remodeling, repairs, decorating and landscaping his home.

Kevin Collum - Lead Carpenter

Kevin has a great family of four and loves to play all kinds of music; banjo, piano, guitar. He also enjoys furniture restoration.

Eric Vanderboom - Lead Carpenter

Eric, together with wife Robbyn, recently moved downtown and loves the exploring of things to do and places to eat. He is also a hidden "World of Wars" fanatic!

Chris Hacker - Carpenter

Chris and his brilliant wife hope to someday go on a honeymoon to New Zealand; kayaking the coastline with sea otters. Chris also dreams of building a Norwegian Kicksled so that his dog Sula can whisk him around a frozen Lake Monona like Buck in the Call of the Wild. :)

Michael Kueny - Carpenter

Mike is very quiet, but he works hard!

Sue Carr - Office Manager

Sue also works as a preschool teacher and as the director of Monona Grove Nursery School. She loves to read, travel, and spend time with friends. She volunteers way too much.

Chad Speight - Owner/President

Chad loves time with his family, and traveling to new and interesting places. He enjoys debating politics, economics, and history. An avid Brewers fan, Chad also loves to coach baseball. He also enjoys playing soccer.

Happy New Year ! SAVE with a 20% Discount!

All of us at Chad's Carpentry wish you and your family a healthy and happy New Year!

To celebrate the New Year, we are again offering a 20% labor discount on a limited number of interior projects signed and started in the months of February and March, 2011.

WE NEED YOUR DATA!

If we have improved your home with a significant remodel in the past 5 years, or if we have attempted to achieve energy savings, please contact MG&E (or your local utility company) and ask them to send your power bills to Chad's Carpentry for inclusion in our energy analysis. Please request the 5 year period, of which the remodel occurred in the third year. (As an example, specify 2005-2009 for a 2007 remodel.)

Built Tight, Ventilate Right!

Deep energy retrofits must include proper ventilation (fresh air AND exhaust) along with meticulous air sealing and high R-value insulation shells, to maximize comfort, performance, and occupant health.



Chad on the Larry Mieller Show

Listen to Chad on WPR, 90.7, The Ideas Network, on the second Thursday of the months of January, March, May, July, September, and November from 11:00 am - 12:30 pm.

Sawyer Crossen Memorial Triathlon

One of the great things about owning our own business is our ability to support community events throughout the Madison area. This year, Chad and Sue are thrilled to be a key sponsor in the Sawyer Crossen Memorial Triathlon, which is a swim/bike/run event for kids 4-17 taking place in Monona, WI on June 4th. This is an event close to our hearts, and we are happy to support it. For more information visit: <http://sawyerstri.squarespace.com>.

After the Remodel

Maintaining Great Air Quality AFTER the Remodeling Project

As many of our clients know, an old, drafty home can be transformed into a comfortable and energy-efficient dwelling. BUT, a tight house presents a few challenges to maintain good air quality and proper humidity levels. Whereas an old, leaky house often gets too dry in the winter, a tight house needs good ventilation systems, and occasionally, dehumidification. Understanding a few simple rules of thumb will help you to maximize your comfort and happiness for years to come.

- Keep relative humidity between 35 and 50%.
 - o Too dry can be uncomfortable.
 - o Too moist can lead to rot and mold problems.
- Window condensation is a common symptom of high humidity.
- Plants, pets, people, pilot lights, cooking, and showers all add moisture to a home.

- Using ventilation fans over stoves and showers is critical in the winter months; leave the fan running if necessary. Delayed shut-off switches can be installed.
- Run a bathroom fan on the top floor to control humidity.
- A humidistat can be installed on a high-efficiency bathroom fan, so that humidity is controlled automatically.

- Bringing in cold, dry, fresh air in a controlled manner is an important variable. In a tight house, fresh air (or "make-up" air) is essential for exhaust fans to work properly.
- We often install a fresh air intake duct or an HRV/ERV system to provide some fresh air once the house is sufficiently tight.
- Controlled fresh air is superior to random leaks all over the building, since leaks create drafts, discomfort, and higher energy bills. Controlled fresh air can be.....controlled!
- One reason we measure the tightness of the home AFTER completing your project is to insure that fresh air systems are adequate.

- Sometimes moisture originates from the foundation.
- Many foundations (old and new) are not properly waterproofed or lack a vapor barrier below the slab.
- When fresh air ventilation does not solve humidity problems, then a whole-house dehumidification system with fresh air intake might be necessary.

- Lingering odors can be an indication that fresh air strategies are not working effectively.
- Check intake dampers and filters to make sure that air is flowing.

We are always happy to give free advice to our clients, and to offer estimates for any added ventilation or dehumidification equipment, so that your home stays healthy, comfortable, and worry-free.

