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Home building industry adopts 'green' practices

Home construction industry looks at ways to go 'green'

By

It sounds amazing, but industry experts estimate that one-third of the waste buried in Illinois landfills each year is made up of debris from construction and demolition. In fact, they further assert that new construction generates four pounds of waste per square foot. So, the construction of a 3200-square-foot house would create an amazing 12,800 pounds of waste.

Consequently, it is hardly surprising that environmentally-conscious contractors, tradesmen and suppliers are searching for ways to recycle as much of that waste as possible and divert it from landfills.

In fact, the fight against such waste is being waged on many fronts.

Resale stores for such items as bathtubs, sinks, appliances, cabinets, countertops, shelving, windows, doors and even decorative elements like furniture and trim work are opening up around the area. Contractors and rehabbers are encouraged to carefully "deconstruct" homes so items like bathtubs, sinks and cabinets can be salvaged and donated to these stores which can, in turn, sell them to someone else.

For the past six or seven years, Habitat for Humanity has operated "ReStores," as they call them, around the country. There are now about 700 of them nationwide, including stores in Gurnee, Elgin and Chicago Heights. A new ReStore opened earlier this month at 4100 Fox Valley Center Drive in Aurora, (630) 585-5508, and another is slated to open in Addison by the end of the year, said Jeff Barrett, executive director of Fox Valley Habitat for Humanity, which runs the Aurora store. Proceeds from their stores support the efforts of Habitat to build new homes and rehab older ones for deserving low-income families.

"This is a way that we can help contractors and others recycle but also help ourselves to be more self-sustaining during a time when it is difficult for people to donate to charities. The income from this store should help us double our capacity for building and rehabbing homes for those who need them," Barrett said.

Over 600 donors have already contributed items for the 28,000 square-foot retail operation.

In Evanston, an independent nonprofit group partially opened a similar 7200-square-foot store this month. Only those who have purchased a \$30 membership are eligible to shop at the Evanston ReBuilding Warehouse, 1818 Dempster St., but it will open to the general public in early May. The ERW will use the money it raises to train at-risk youth and ex-offenders in the construction trades and will also spend it on job development programs, store manager Lou Dickson said.

"We have both an environmental and a community mission and there is huge enthusiasm among contractors and others in the city," she said. "We want to change people's perception of what's an asset and what's garbage. None of us want to use new energy and new raw materials to replace things that already exist and can be used again."

Like the Habitat store, the ReBuilding Warehouse stocks items deconstructed from existing homes, but also things that have been stored but never used because of incorrect ordering or manufacturing mistakes. For instance, they recently received a brand new patio door from a contractor because someone ordered it with the slide on the wrong side. The contractor has had it stored, waiting for an opportunity to use it, but finally decided to just give it to the warehouse effort, Dickson said.

By donating these items, contractors save money on disposal costs and homeowners or contractors (depending on who the owner of the items is) can earn a tax deduction for the value of the materials.

Prices on items purchased from the store average 50 percent to 90 percent less than if they were purchased new from a regular store. Call (847) 864-9246 for more information.

More conventional recycling avenues are also being pursued involving the grinding up or melting down or shredding of items to create totally new uses for the waste.

For instance, Wyndham Deerpoint Homes recently had the streets of its new Tall Oaks community in Elgin paved using a hot mix asphalt that included shredded asphalt shingles salvaged from both roof tear-offs and manufacturer scrap.

"We have never done this before because the process was just recently certified by the Tollway (Authority) and IDOT for use here, but we are so happy with the product, that I sure we will use it again at other communities," said Rich Guerard, principal with Wyndham Deerpoint.

"It is a stronger product that took less time to put down and it actually cost slightly less. The tiny fiberglass fibers from the shingles actually make the hot mix stronger," he said.

In fact, this process has been in use in Wisconsin, Missouri and Indiana for several years, but has only made it to Illinois in the past few months, Guerard said. "And considering that 2 million tons of asphalt shingles end up in landfills each year, this is an important advance."

The hot mix containing ground up shingles was provided to Wyndham Deerpoint's paving contractor by Southwind RAS, a 2-year-old Bartlett company that is one of the pioneers in this new effort.

"We get the shingles straight from roofing companies and from other recyclers, sort them and then grind them down to be added to the hot mix, which requires 25 (percent) to 30 percent asphalt," said Matt Vondra, a Southwind representative.

"When we add ground-up shingles, less virgin asphalt is required and besides, the short cellulose fibers from the shingles prevent much of the liquid asphalt from draining down to the bottom of the roadway, below the rocks and sand in the mixture. That allows the street to hold its dark color an extra year or two and makes the roadway stronger."

Vondra also said that their mix requires less compaction, which means that the crews can pave faster, reducing labor costs.

"Similar recycling efforts have been used for up to 20 years in some states, but Illinois has been slow to adopt specifications that allow for the use of recycled asphalt shingles. Before the approval of provisional specifications last October, we were hauling Illinois shingles to Wisconsin where they could be used," he said.

Owens Corning has become a major driver in the effort to recycle the shingles they manufacture. Since they initiated their Preferred Contractor Shingle Recycling Program in late 2009, the nationwide program has recycled shingles from more than 16,000 homes, saving the equivalent of 50,000 barrels of oil.

"Owens Corning has a very high commitment to sustainability. We no longer wanted to see our used products sent to landfills," said Barry Hornbacher, shingle recycling business manager. "But we needed to come up with a way to make recycling convenient and cost competitive for our contractors. And we also demonstrated to them that participating in this program would be a way to differentiate themselves from their competitors in the eyes of potential customers."

Chicago is one of seven markets where Owens Corning has partnered with Heritage Environmental Services to implement the program. Recycling centers are currently open in Lemont and Forest View.

The product produced by Heritage can be used for Illinois parking lots and driveways, but does not meet the initial specifications from the Illinois Department of Transportation, according to Rodney Pierce, director of sustainable solutions for Heritage.

So they are sending much of their shingle material to Indiana, where it does meet highway specifications.

“Our product would need further screening to meet the IDOT District 1 specs, but it would meet tollway specs. So we are trying to get all the entities to come up with something consistent so we can keep Chicago shingles in Illinois,” Pierce said.

Many other construction materials like wood, clean cardboard, metal, plastic sheeting, bricks, clay, marble, ceramic and porcelain are also being diverted from landfills by a burgeoning construction materials recycling movement. In fact, there is even a Construction Materials Recycling Association based in Eola, Ill.

MBL Recycling in Palatine is a member of this association and since 2002 the firm has been actively working to prevent demolition and construction-related materials from filling up landfills. In fact, during 2010, they recycled 97,500 tons of construction and demolition waste from a 20-mile radius around its plant, according to Wendy Gold, co-owner.

MBL provides a needed service for contractors working toward LEED certification on their buildings because the recycling of waste removed from those sites must be carefully documented. In addition, Chicago, Northbrook and a few other municipalities require all of their contractors to prove they have recycled at least 50 percent of the waste from their construction sites.

MBL accepts recycling materials from all interested contractors in all reasonably close communities, Gold said.

Wood is recycled into mulch, animal bedding and fuel for burning. Clean cardboard is made into packaging. Plastic sheeting is melted down and used to make new plastic products. Metal from pipes, ductwork, steel studs, siding, fasteners and even wiring is melted down and used again. Marble, stone, ceramic tile, quarry tile, porcelain, plaster, bricks, clay, concrete and terrazzo are ground up and used as crushed aggregate for roads, parking lots and driveways. And asphalt shingles are also processed for use in hot mix at MBL.

According to Gold, the only products they do not yet recycle are carpeting (because no end use has been found for it) and drywall — because Illinois will not yet allow companies to reuse the gypsum in drywall as an additive to cement or to help drainage in areas where the soil is heavy with clay.

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