

Recycled and Energy Efficient Building System

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What if your home could be built with an energy efficient product that is recycled, non-toxic, and breathable? A material that is fire resistant and absorbs sound? This might sound too good to be true, but it's not. Durisol has been used, as an alternative to wood frame construction, in the production of new homes for nearly 60 years.

A Recycled, Non-toxic Material

Durisol is a modular block made of wood fibers bonded with Portland Cement. It is made of 80 percent recycled materials—clean, natural wood waste. Durisol contains no polystyrene, foams, plastics, or any other potentially toxic substances. That means it does not contain any VOCs (volatile organic compounds) and it does not off-gas (does not release harmful chemicals into the air). The blocks are dry-stacked (without mortar) and filled with concrete and steel to produce a reinforced concrete wall.

Breathable

Those of us living on the eastside of the mountains usually don't worry about moisture build-up in our homes. We think mold growth is a problem that plagues the valley. Unfortunately, we have mold too. Here's what happens in a typical home. We produce moisture in our homes while showering, cooking and doing laundry. The interior air becomes saturated with moisture.

Since the air cannot hold all the moisture, the extra humidity has to go somewhere. In a wood framed home without a moisture barrier between the drywall and wood studs, the extra moisture goes into the wall cavity, pooling and wetting the insulation. If there is a plastic vapor barrier inside the studs, the moistures will pool on that vapor barrier. Mold forms wherever moisture accumulates.

Durisol eliminates this concern by being "breathable." To balance humidity levels, a Durisol wall system allows water vapor to naturally diffuse through the wall to the outside air. Durisol material is also hygroscopic—meaning it has the potential to store and release moisture when required. This means when there is so much moisture produced that it cannot all transmit fast enough through the wall, the Durisol blocks store excess moisture.

This moisture is spread across the material; thus it does not "pool" in the wall. When the air becomes less saturated with moisture, Durisol gradually releases the excess moisture that it has been storing. Unlike traditional wood studs, the high alkalinity of Durisol makes this wall system completely resistant to mold. There is nothing in this wall system that is susceptible to mold or rot. So even if moisture levels are high, with Durisol, there is no worry of mold forming.

Energy Efficient

Our homes demand a lot of energy to keep warm during the winter and cool throughout the summer. As our energy prices climb, there is much talk of finding ways to conserve. Durisol is an excellent choice for our climate.

Unlike other Insulated Concrete Forms, Durisol has a layer of rock wool inside the form. The form is made so that the rock wool layer is to the exterior of the structure, and the concrete core to the interior. This allows the concrete core to act as a thermal mass by holding heat and stabilizing interior temperatures.

Bend has an excellent climate for passive solar homes. We have enough sun-



SUBMITTED PHOTOS



A home made with Durisol.

light that if our windows are positioned to face the south and we use Durisol, part of our heat will come free from the sun. Durisol is perfect for holding the sun's heat. And, with the continuous rock wool insulation to the exterior, all thermal bridging (the direct transmission of exterior temperature to the home's interior) is eliminated. For these reasons, Durisol has higher and steadier R-values than traditional wood frame construction.

Additional Performance Characteristics

Durisol will not burn or melt. In fact, it has an overall fire resistance rating of 4 hours. This material also has excellent sound absorption properties. This means, when inside a Durisol home, you will revel in peace and quiet - no longer having to listen to your neighbor's band practice.

Contractors like this product because it is easy to erect and finish. Drywall and wood siding can be easily attached to any part of the material. In addition, Durisol has an open texture, so interior plaster and exterior stucco can be applied directly to its surface.

Now that you've come to believe that this amazing product really does exist, don't think Durisol is only used to build solar bio-domes on northern California communes. Originally patented in Switzerland in 1946, it's been manufactured in Canada since 1953. In addition, there are licensed manufacturing facilities in the United States, Japan, and other countries around the world.

A specialist in sustainable building design, Cheryl Heinrichs of Cheryl Heinrichs Architecture (CHA) creates homes that indulge owners' whims while treading lightly on the earth. From elegant timber-frame to extreme straw-bale, CHA uses ICE, SIPs, Durisol and other local and recycled materials to create homes that celebrate the inhabitants and surrounding habitat. She can be reached at 541/382-8914.