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Hardboard Siding Takes Its Lumps

By: Michael J. Scaduto

As home inspectors we often come across both older and newer homes that are clad with hardboard siding. It is amazing to me that the homebuyers are unaware of what the siding really is. When asked they invariably respond that it is wood clapboard. They have no idea how far from the truth that they are. After we get through explaining to them exactly what they have for siding, what maintenance is involved in its upkeep, as well as all of the potential problems with this type of siding, they look like someone just smacked them across the face.

It has been our experience that most residential homes that have hardboard siding show some deterioration and damage, often within several years after the initial installation. Some of the causes are directly related to poor initial installation by the contractors, but in many instances the blame can be placed squarely with the owners for lack of proper maintenance and upkeep. Later in this short treatise we have an article written by Ernie Simpson, a home inspector out of Bradford, Ma., who gives his opinions on how to maintain such siding.

A class action lawsuit has been brought against the manufacturers of this siding material. Plaintiffs claim that the material is inherently deficient, and manufacturers claim that most failures are from poor installation and lack of maintenance. Both parties have legitimate points. This type of material has a greater vulnerability to moisture than wood products, but installers and owners often make matters worse.

Before we get into some of the problems with this type of siding let's first take a look at what hardboard siding really is. Hardboard siding is made from wood pulp: wood fibers and wood fiber fragments produced by blasting wood chips apart or by grinding them up. These fibers are then formed into boards under high heat and pressure. There are two ways that they are processed: the wet process and the dry process. Under the wet process a slurry of wet pulp is pressed and dried to squeeze out water and make a dense board. In the dry process air is used to move the fibers into a press where synthetic chemicals are used to provide an adhesive bond in the board. Both processes create a dense board that holds paint well.

Many critics of this material compare it to paper, we are much kinder in our opinion and refer to it as cardboard. Often when we find a client that really doesn't get it, we point to our clipboard and tell them that in our opinion the clipboard material is better than the siding. That seems to get their attention.

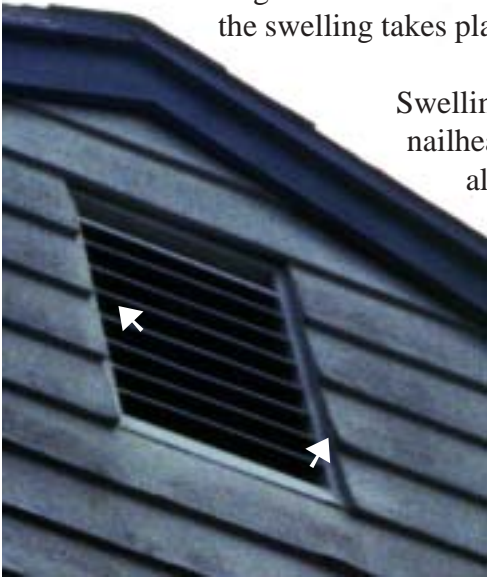
Hardboard like natural wood siding products is susceptible to water intrusion. For hardboard siding this is especially true of capillary action when the siding is in direct contact with water. Another source of damage to hardboard siding is by electromagnetic attraction. This occurs when the siding is in areas with high humidity and high water vapor. The siding actually pulls moisture into itself.



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Swelling and buckling occurs more frequently in hardboard than in natural wood products. The reason for the swelling is because hardboard is more dense in structure than wood. The denser hardboard siding runs out of space for the water and swells up. Unlike wood products this swelling usually remains and often requires repairs.

Buckling occurs when the ends of the individual boards are pinned at the ends (nailed to studs). When the swelling takes place lengthwise, buckling of the siding is a typical result.



A common installation mistake is to leave the edges of this siding exposed (no trim)

Swelling is also very common at hardboard siding joints and seams, as well as around nailheads. In addition to this type of swelling being cosmetically unattractive, it is also another source of continued damage to the siding.

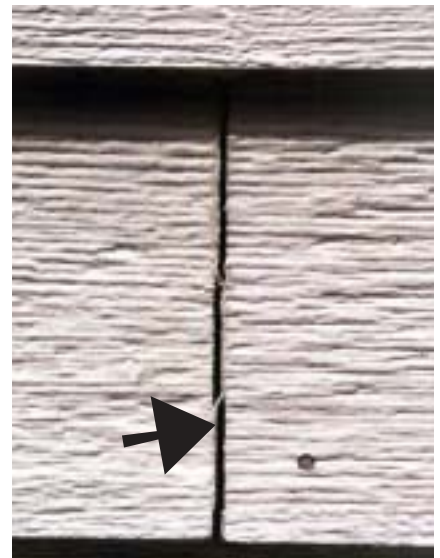
How can hardboard siding perform as it was intended to perform? Proper installation and on-going maintenance are the two keys to its success. This type of siding should never be installed in any wet or humid areas. Installing hardboard siding where water runoff and splashback occurs is just asking for trouble. Also this material should never be installed in direct soil, grade or roof contact.

Following the manufacturers guidelines for the storage and installation is paramount. Hardboard at a job site must be protected from rain and moisture. And installers must follow the manufacturers specs for nailing and spacing of the joints.

Homeowners must be made aware that this type of siding warrants regular painting, usually every 3 years. Removing mildew from the siding and caulking and sealing all open joints should also be part of the maintenance program. Once decay sets in, all the maintenance and painting will be of no avail. If anything, painting over damaged hardboard will only serve to seal in the moisture.

A recent court decision makes clear the extent of hardboard siding failures. An Alabama jury has returned a verdict against the Masonite Corporation in a federal class-action suit. The jury answered yes to four questions posed to them, agreeing with the plaintiffs that:

1. Hardboard siding fails to meet the reasonable expectations of a consumer.
 2. Hardboard siding is unreasonably prone to failure.
 3. Hardboard siding is not fit for its intended use as an exterior siding product.
 4. A prudent company aware of its risk of product failure would not have put it on the market.
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Open joints like this one must be caulked quickly to prevent deterioration.

The yes verdict could make the company liable for damages in most of the U. S. The litigation is expected to continue with appeals for some time to come. For more information on this class-action lawsuit contact the McWright Jackson law offices at 334-432-3444.

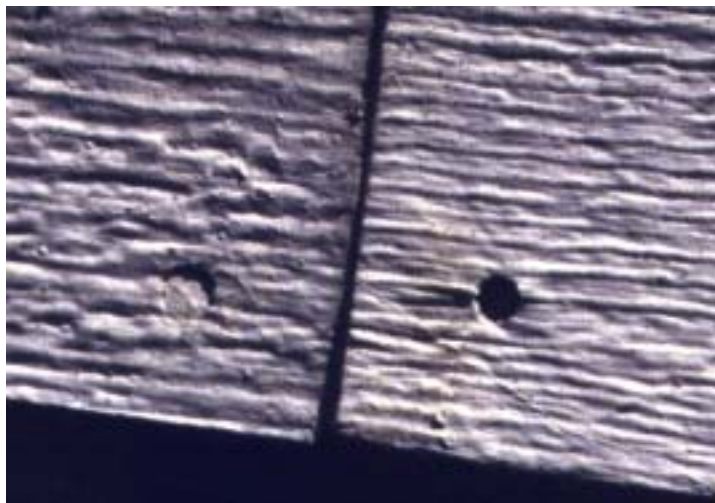
In another federal class-action suit lawyers for homeowners suing Louisiana-Pacific have agreed to a settlement. The case evolves around an OSB-based siding product called Inner-Seal. Inner-Seal consists of an oriented strand board core covered with a wax-impregnated paper. Similar to hardboard in its ability to soak up moisture, it has had a history of failure in thousands of installations. In addition to buckling, swelling and rot, inspectors should also look for fungal growths on this type of siding. A key identifying feature for home inspectors is a characteristic small knot pattern which appears on many of the boards. Homeowners with this type of siding have until the year 2002 to file for compensation. Interested parties can contact the law firm of Poorman Douglas at 800-245-2722.

For information on the care and maintenance of these products contact the following sources:

**For Masonite information call
800-257-7885**

**For Louisiana-Pacific information call
800-648-6893**

Nail heads should be sealed and not recessed into the siding



MAINTAINING HARDBOARD SIDINGS

By: E. A. Simpson

Modern 'hardboard' sidings look very similar to the wood sidings which they are increasingly replacing. You can tell if your home has a 'hardboard' siding if the clapboards show an 'embossed' surface, or if exposed areas on the ends of clapboards or wood-like panels show a fiber-like appearance. Hardboard sidings have their good points and their bad points. On the plus side, hardboard sidings are not prone to paint failure as wood clapboards are. The causes of paint failure have been 'engineered' out. On the minus side, older hardboard sidings were often of dubious quality, the sidings must be installed properly (which has often not been done), and all wood-fiber products are prone to retention of moisture' and deterioration if not properly cared for. Nevertheless, if you are willing to maintain the

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siding it can be long-lasting, durable, and attractive.

As noted, the great blessing of 'hardboard' sidings (besides the fact that they cost less than cedar sidings) is the fact that they generally do not undergo premature paint failure. That is their blessing-and their curse. The problem is, while the paint cover may not peel, it will thin. While homeowners don't bother to repaint if the siding doesn't show any substantial peeling, the thinning of the paint cover will lead to an absorption of moisture by the siding. This 'retention of moisture' leads to a swelling of the siding (and it can swell a lot as the siding is composed of compressed wood pulp). It may take some time, but usually after ten years or so the siding starts to show a noticeable swelling at the base of the clapboards and at unsealed nail holes (more on this later). If the siding is left unsealed it will continue to retain moisture and will eventually rot. And should this continue I will note that it is not uncommon to find twenty-five year old homes which need to be completely resided due to extensively deteriorated hardboard siding (which was most likely never painted).

Improper installation procedures can also lead to problems with hardboard materials. The nail holes are supposed to be left flush with the surface of the siding (as opposed to recessed). When the nail heads are recessed the layers of wood fiber material are left exposed at each hole and it takes only a few years for the siding to show swelling and rot around each of the nail holes. Installers are getting better at this but earlier installations almost always show the nail heads recessed.

Another installation problem occurs when siders install the clapboard sections with no gaps left between sections to allow for expansion (which occurs



with changes in moisture and temperature). Siding without small gaps left between sections and where it butts trim will 'buckle' slightly. This shows as a slight 'waviness' in the siding. As hardboard sidings are much more pliable than wood sidings, areas with minor waviness are common; minor waviness does not represent a significant problem and can often be lived with. Severe waviness or that which is unacceptable in appearance can often be remedied by having the affected sections removed and reinstalled or simply cut to allow for expansion. Large gaps under buckled sections can also be sealed to prevent insect intrusion.

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The important thing to remember is that hardboard sidings should be painted every five years or so to prevent a thinning of the paint cover and the resultant swelling (and rot). The siding may need to be cleaned but it will not need to be scraped (scraping will damage the siding!). Priming should be done at bare spots-although there shouldn't be many. Use a good quality latex paint or a paint specifically formulated for hardboard sidings. The siding should be thoroughly caulked prior to painting (see below).

Also, as this siding is meant to be kept sealed, make sure that you touch up any areas on the siding which get damaged. The exposed ends of clapboards, visible where the siding meets the cornerboards, may also need extra attention as the ends of the clapboards are exposed at this area. As with solid wood sidings, those sections that are subject to splashback from decks, landings, or the ground will be most subject to decay and may need more frequent attention. Measures to prevent excessive splashback, such as installing gutters, should be considered.



Another common problem is a lack of flashing and/or details that allow water to enter the siding

If the siding on your home already shows some degree of retention of moisture it is still possible to seal the siding through painting and caulking. Siding thus sealed will remain in stable and functional condition indefinitely (with repainting) but it will appear as it was when sealed. Sections showing rot should be replaced.

Caulking should be done to fill any recessed nail holes and gouges, and to fill the gaps left between individual sections. A caulking and periodic recaulking of the seams between the clapboards and window, door, and cornerboard trim should be done. Use a good quality elastomeric caulk such as a paintable silicone, a siliconized acrylic, or other high quality caulks.



Placing any hardboard siding in grade contact will practically guarantee it's demise. Any grade contact is improper and should be pointed out to clients for corrective action. This is a prime area for insect damage!