

#### **A Sure-Look Home Inspections**

3025 Mill Stream Court, Matthews, NC 28104 Tel: 704-488-4469 Fax: 704-882-8879

asurelook@yahoo.com www.asurelook.com

#### **FACT SHEET: MASONITE HARDBOARD SIDING**

**Hardboard**, also called **high-density fiberboard**, is a type of <u>fiberboard</u>, which is an <u>engineered wood</u> product. It is similar to <u>particleboard</u> and <u>medium-density fiberboard</u>, but is more <u>dense</u> and much harder because it is made out of exploded <u>wood fibers</u> that have been highly compressed. It is referred to as <u>Masonite</u> in the USA because that was the first brand to be marketed there in the 1920s (25 years after it was invented in England).

Unlike <u>solid wood</u>, it is very <u>homogeneous</u> with no grain. However, a <u>wood veneer</u> can be <u>glued</u> onto it to give the appearance of solid <u>wood</u>. Other overlays include <u>formica</u> and <u>vinyl</u>. It has many uses, such as a substrate, but unlike <u>plywood</u> and solid wood, it has no significant structural strength. It is used in <u>construction</u>, <u>furniture</u>, <u>appliances</u>, <u>automobiles</u> and <u>cabinetry</u>, and is popular among acrylic and oil painters as a painting surface due to its economical price (though it must be coated with <u>gesso</u> or <u>canvas</u> before use). It is also used as the final layer in many skateboard ramps and the <u>half-pipe</u>.

Hardboard is produced in either a wet or dry process, which produce a panel called S1S or S2S respectively. The wet process only leaves one smooth side, but dry processed hardboard is smooth on both sides. Like other types of fiberboard, hardboard is susceptible to moisture damage and is generally not used outside. Tempered hardboard is made by adding an oil that becomes a polymer when the board is formed under high temperature and pressure. This gives it more water resistance, hardness, rigidity and tensile strength. It is used in construction siding. Tempered hardboard is less suitable for use by artists as the oil can leach out of the board and discolour the paint.

Hardboard was invented by Daniel Manson Sutherland in 1898, at <u>Sunbury Common</u> in <u>Spelthorne</u> near <u>London</u>. He formed the Patent Impermeable Millboard Company to market and develop his invention.

**Masonite** is a type of <u>hardboard</u> formed using the Mason method (invented by <u>William H. Mason</u>) by taking <u>wooden</u> chips and blasting them into long fibres using <u>steam</u> and then forming them into boards. The boards are then pressed and heated to form the finished boards. No glue or other material is added. The long fibres give Masonite a high bending strength, tensile strength, density and stability.

Masonite was invented in 1924 in Laurel, Mississippi. Manufacturing started in 1929. In the 1930s and 1940s Masonite was used for many things like roofing, walls, desktops, electric guitars, canoes, etc. Later, the popularity faded, but it is still used, most notably by hobbyists. Artists have often used it as a support for painting, and in artistic media such as linocut printing. Masonite's smooth surface makes it a suitable material for table tennis tables and skateboard ramps. Masonite is also popular among theater companies as an inexpensive way to construct walls on-stage.

Moving companies are large users of Masonite. Their use applications are varied, ranging from protecting the walls of buildings they are moving in and out of and laid down on the floors and halls of office buildings to enable the smooth rolling of their dollies loaded with packed goods. A large move can entail many hundreds of  $4 \times 8$  foot sheets.

Masonite is widely used in the construction industry, particularly in high-end custom renovations where floors are often finished ahead of other work and require protection. 1/8" or 1/4" masonite sheets are typically laid over rosin paper on top of finished floor surfaces in order to adequately protect floors. Seams of masonite sheets are taped with duct tape to keep them from shifting and to help keep substances from leaking through.

It is also called Marsonite. In Europe, this product is also known as Isorel.

#### Product Identification of Masonite Hardboard Siding:

Masonite Corporation is a leading manufacturer of a product made from wood fiber, wax and resins that is widely known as hardboard siding. Masonite distributes its hardboard siding both in lap (board) and panel (sheet) applications, each available in various external textures designed to look like conventional lumber siding. Masonite markets its siding products for a variety of external construction uses, including exterior siding for residential and other structures. This lawsuit does not concern Masonite® products used for interior, roof, wall substrate, plywood or deck sheathing, or for purposes other than exterior siding. The lawsuit also does not concern oriented-strand board (OSB) siding.

Not all hardboard siding is manufactured by Masonite Corporation. The Masonite name is often used improperly to refer to other manufacturers' brands of hardboard siding. Masonite® is a registered trademark of Masonite Corporation.

If you do not already know whether you have Masonite® Hardboard Siding on your property, there are several steps you may take to make that determination. You may wish to contact the builder of your property; you may remove a board or sheet of the siding and inspect the reverse side; or, if you have a garage with the back side of the siding exposed, you may look there. Masonite® Hardboard Siding is typically identified by a stamp of the name "Masonite" and/or the number "X-90" on the siding itself. You may also take a piece of your siding to your local building supply store, which may be able to assist you.

#### **Sample Masonite Siding Pictures**



This is from a home built in 1983 by Village Builders in Houston TX. This is a panel siding called Cypress. Notice the V groove on the left and the cypress features.



**6" Smooth Lap**Smooth finish. Looks similiar to woodsmand lap.







#### **Countryside Lap**

This is called countryside lap siding. Came from a home in North Houston. Triple lap. Looks like 3 boards put together. Notice the vertical lines.

## Hiddenridge Lap This is a sample from a

This is a sample from a home in Houston.Notice the smooth texture and the triple board look of the siding.

#### **Woodsman Panel**

This an example of woodsman panel siding. Notice the dark colors which is "wax bleed". Also notice the horizotal lines in the pattern.







Another good example of overall damage to siding. this example is from Missouri City Texas. A home built by Ryland Homes. Notice the swelling around the nail homes, the fungus growth at the bottom right.

#### **Omniwood Lap**

This is an example of Omniwood siding. Notice the swelling around the nails in the middle of the picture.



#### **Stuccato Panel**

This is an example of Stuccato by Masonite. It looks like stucco.



## Woodsman Panel.

Notice the horizontal lines and the "tent" like vertical groove.

#### **Various Siding Markings**

Identifying the type of siding you have is the hardest part of the entire process.

#### To find the markings:

- Pull a board off the house and look at the back. Look for markings and notice the color and texture.
- Go to an unfinished part of the house like in a garage or attic. Pull back the protective tar paper and look for markings.
- Look for samples left in the attice or in the rafters of the garage.
- Besides finding the manufacturer's markings on the back (see pictures below) or identifying the pattern, you can also match the American Hardboard Association codes stamped on the boards. Look for the AHA markings and use the following tables to help you.



See below for more pictures.

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Plant Number	Plant Location	Owner
AHA01	International Falls, MN	Bosie Cascade
AHA02	Broken Bow, OK	Weyerhaeuser
AHA03	Diboll, TX	Temple
AHA04	Roaring River, NC	Abitibi/ABTCO, LP
AHA05	Forest Grove, OR	Forestex
AHA06	Laurel, MS	Masonite, IP
AHA07	Catawba, SC	Champion, GP Bowwater, US Plywood
AHA08	Ukiah, CA	Masonite, IP
AHA09	Not used for siding	Not used for siding
AHA010	Klamath Falls, OR	Weyerhaeuser
AHA011	Sturgeon Falls, ONT	MacMillan, Weyerhaeuser
AHA012	Towanda, PA	Masonite, IP
AHA013	Not used	Not used
AHA014- 19	Not used for siding	Not used for siding
AHA20	Klamath Falls, OR	Collins











#### **Masonite**

These are examples of markings you could find on the back of various siding products. In some cases I have not found any markings on the siding of a complete home. The one to the left is obviously Masonite.

## Weyerhaeuser Siding

Notice the AHA 10 and the tree in a triangle or something that looks like a big A.

#### **Temple-Inland**

This is a sample of Temple Inland siding from a David Weekley home in Houston, TX. notice the smooth, dark texture and the INLAND which is very noticable.

## **Temple Industries**

This is a sample from panel siding. Notice the cluster of Ts connected together in circle.

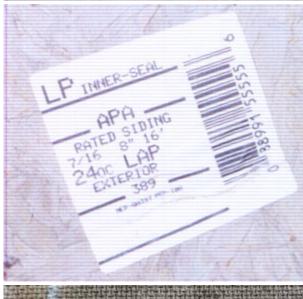
#### **Omniwood**

Notice the works "Masonite Omniwood" and then notice the pattern. Wood chps glued together. Small tooth pick pieces of wood chips.



#### **LP Inner Seal**

Notice the pieces of siding glued to gether. Notice the wood chips are bigger thand the Omniwood siding.



#### LP Inner-Seal.

Same piece as above, but notice the APA and the LP Inner-Seal label.



#### **ABITIBI-PRICE**

Thisis a close up of Abitibi-Price. Notice the course pattern on the back.







#### **Siding Patterns**

This is a close up of a
Masonite product
calledWoodsman lap siding.
Notice the waffle iron pattern
or burlap pattern. I have
seen this on different types
of Masonite. Notice the color
also and texture.

#### X-90

Here is a sample of Masonite with the X-90 markings. Notice how the letters are made with a series of dots.

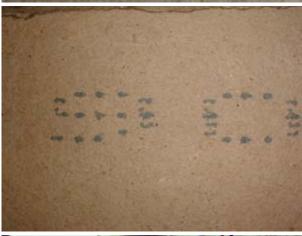
#### **More X-90**

Here is another sample of X-90 on Masonite brand siding.



### Boise Cascade This is from a home built b

This is from a home built by Village Builders in the mid 80's with Boise Cascade 12" lap siding. Notice the circle around the tree.



# Backside of Masonite 6" Smooth Lap

This is the 90 in X-90. Notice how the back is smooth. No waffle iron pattern like above.



# Champion Stamp on the siding of plywood

#### **Examples of "Damaged" Siding**

These are examples of what is considered "damaged" siding. The definitions come from the Masonite settlement document. Most all of the settlements include these types of damages.



### Swelling around the nail holes.

Surface welting, or swelling around nail heads This example is from a Masonite Woodsman lap siding.

Look at a <u>picture of siding without</u> swelling around the nails.



#### **Buckling of Siding**

in excess of 1/4" between studs spaced not more than 18" on center;



#### **Edge Checking**

Edge checking, where a feeler gauge of .025" thickness and one-half inch width can be inserted one-half inch into a suspected delaminated edge with moderate hand pressure;

(horse shit! The inspectors do not and have not used a feeler gauge on any house I've seen inspected.)

Look at a good edge of siding.







#### Thickness Swelling.

Thickness swell in excess of 15% of the maximum ANSI/AMA 135.6 standard tolerance, that is, a measure of .065" for siding with a nominal thickness of one- half inch and .518" for boards with a nominal thickness of 7/16 inch;

#### **Fungal Degradation**

fungal degradation which results in soft board in which moderate thumb pressure deforms or punches a hole in the board;

#### Wax Bleed.

wax bleed, raised or popped fibers or fiber bundles, where the condition exists on more than 25% of the board surface and, in the case of wax bleed, where the Siding in question was painted within four years of the date of the inspection. "Wax bleed" does not include paint discoloration;

#### **Masonite Hardboard Siding Settlements:**

**Note**: This settlement was approved on Jan 1, 1998 and was to continue for many homes till 2008 BUT....according to the settlement "After seven (7) years from the Settlement Date, Defendants had the option to terminate this agreement." This settlement was completed by 2005. This settlement paid qualified homeowners for damaged siding. It was not the best settlement for the homeowners, but considering the alternatives it was the best homeowners got.

**Structures Affected:** ~4.3 Million across the US. (Mobile Register)

Web site: www.masoniteclaims.com

Articles: Masonite: Godzilla of class actions A must read article from the Mobile Register.

Mobile Alabama is where the trial took place.

**Phone**: 1-800-330-2722

**Attorneys**: John Crowder and Richard Dorman, 1-800-3509315

#### **Compliments of:**

