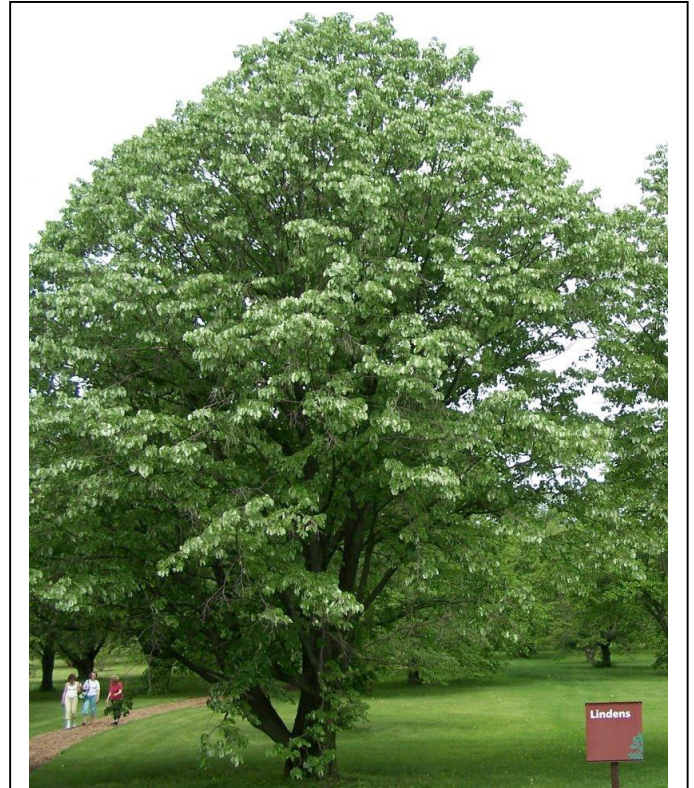


## Basswood and Sunland Shutters

Basswood, which is also known as Lime in Britain and Linden in Europe and North America, is any of about 30 different species of trees in the genus *Tilia*.



**King Matthias's Linden Tree planted in 1301**



**Linden Tree**

Basswood grows throughout the temperate part of the Northern Hemisphere in Asia, Europe and Eastern North America and some specimens have been estimated to be 2,000 years old.



Basswood has a long history of use. Besides being used for ornamentation (the most famous may be Unter den Linden street "Under the Lindens" in Berlin, Germany), it's important to beekeepers as a honey plant and used for herbal tea.

Some parts of the basswood tree are reported to have a medicinal use and it's widely used for model building and intricate carving. It's also popular for

electric guitar and bass bodies, drum shells and for some types of wind instruments.

Fibers from the tree have been used to make clothing.

Of course, for us the most important use is in window coverings where it's used in wood blinds and shutters.

Basswood is a Hardwood. This last sentence is a lot more complex than it seems.

There are basically 2 types of wood, Hardwood and Softwood. It's really too bad that they are called this because the terms Hardwood and Softwood have nothing to do with how hard or soft the wood actually is. It's basically a matter of the microscopic structure of certain features of the tree.



**Softwood Fir Tree**



**Hardwood Oak Tree**

Softwood comes from Conifers (think Pines, Firs, Spruces, Christmas trees, trees that have seed cones and are almost all evergreen). Hardwood comes from angiosperms (think trees that have flowers and lose their leaves like Basswood, Birch, Cherry, Elm, Oak, Maple & Willow).

Just to add to the confusion, there are hardwoods that are mechanically soft like Balsa Wood and softwoods that are mechanically very hard like Douglas fir. Basswood happens to be one of the mechanically softer hardwoods.



Select & Better Lumber Grade



#1 Common Lumber Grade



#2 Common Lumber Grade

Wood, just like steaks for example, is graded before it's sold. Hardwood and Softwood are graded differently. Softwood is graded either for strength or for appearance (trust me it's a lot more complex than that). Unlike Softwood grading, Hardwood grading has nothing to do with the strength of the wood. Hardwood is graded by the percentage of the piece of wood that is free of defects. This is basically done to determine the amount and size of defect free pieces. The higher the grade, the more of a given piece of wood is usable.

OK, if you have made it this far you now know more than 90% of everyone else in the business about woods and Basswood in particular.

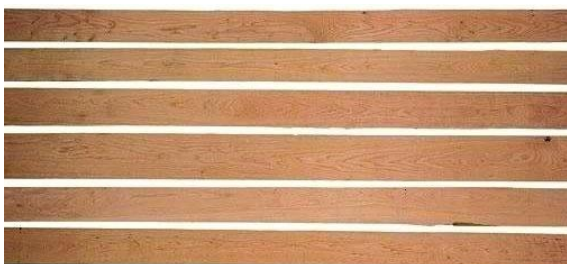
Sunland Shutters, through our subsidiaries and sister companies owns large commercial Basswood Hardwood forests in Northern China and Southern Russia (Siberia).



We are the only company we know of who controls the entire process for Basswood shutter production. We cut the trees. We mill them in our own wood mill. We do the kiln drying. We do the component milling and molding. We make the shutter and we paint it.

Since we are a vertically integrated wood milling / shutter production company we have control of the entire process from timber cutting to final packaging. This gives us complete control over the consistency and quality of our materials and production.

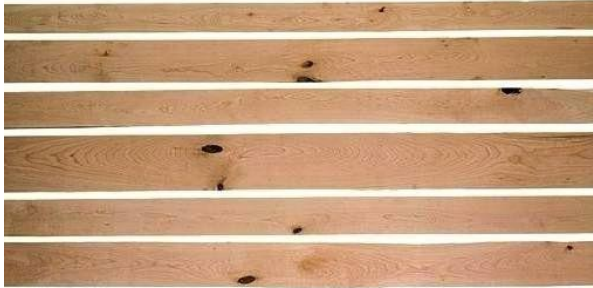
Because we cut the timber and run the wood mill, we can use every part of the tree in our production process.



Select & Better Lumber Grade Image

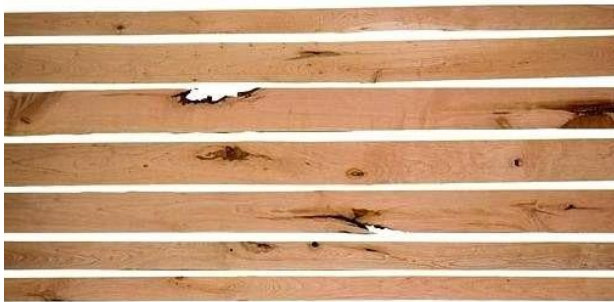
We divide the timber into 3 grades. Grade A is used for our Lexwood Premium Stained shutters. This would be about what we call FAS, FAS 1-Face (F1F), Select and

1-Face grades in the US. Long pieces of wood with few defects to cut out that allow for long lengths of wood. You really need this type of wood to make a stained shutter.



#1 Common Lumber Grade Image

Second Grade is used in the Lexwood Advantage Painted shutters. This would be about what we call No. 1 Common grade in the US. This is shorter lengths of wood with a few more defects to cut out. This wood is then finger jointed to make the longer pieces needed for shutter production.



#2 Common Lumber Grade Image

Third Grade is used in the Lexwood Plus Painted shutters. This would be about what we call No. 2 Common grade in the US. This is still shorter lengths of wood with a more defects to cut out. This wood is then finger jointed to make the longer pieces needed for shutter production.

A quick word about finger jointed wood. Some people are going to try to tell you that finger jointed wood is no good or not strong enough to use. While that may have been true 20 or 30 years ago, it is simply not true today. Finger jointed wood is fully accepted in the industry.



Per the National Design Specification. 1997.Para. 4.1.6 American Forrest and Paper Association. "Structural end jointed or edge-glued lumber shall be permitted to be used interchangeably with sawn lumber members of the same length". Finger jointed wood is fully accepted by the Southern Building Code Congress, the International Building Officials and Code Administrators, the International Conference of Building Officials and the Council of

American Building Officials.

One of the benefits to using finger jointed wood is that it allows us to use much more of the tree. Since finger jointed wood is made from smaller lengths of wood we can use much more of the tree to make shutters. This means that we have to cut down fewer trees and that we have much less wasted lumber.

The ONLY disadvantage to finger jointed wood is that you can see the joint so you can't use it for a stained shutter.



One of the most important steps in making the components is drying the wood. The wood needs to be dried so that it will not warp. We go to great lengths to make sure the wood is correctly processed. First we kiln dry the wood. Then it is given a water spray, after which it is sent to the kiln dryer again. After we reach an approximate water content of 10% (+/- 2%) we carefully store the lumber for 6 months to allow the wood to stabilize.

After the wood is stabilized, we mill it to the louver, stile and rail shapes we use to make shutters. When your order comes in we cut the various pieces to length for your shutter, assemble it and then paint it.



The final step in making your shutters is the finish. After all, this is what your customer sees.

The most critical component of the finish is the primer. This is what allows us to use finger jointed Basswood. The key to using finger jointed wood today is using the right primer that completely covers the finger joint. A great primer will last for years and you will not see finger joints showing through after 90 days like some of the finger jointed wood from 10 years ago. For our Lexwood Plus shutter we use a gesso primer and for our Lexwood Advantage shutter we use a UV primer.

The Italian division of the international Renner Paint Company specially formulates all of our primer, paint and stain for us. They have engineered their products to work specifically for our products. These environmentally friendly water based finishes have no lead. The VOC rating is zero. Our Lexwood Premium water based stain sealer & topcoat are .009 lb per gallon, (virtually zero). All VOC ratings are better than all US Health & Environmental Requirements. We control the factories and we ensure that only these paints are used and that there are no other additives.

At Sunland Shutters we take full advantage of our position as a fully vertically integrated manufacturer. Since we control all steps of the manufacturing process we can emphasize the quality and consistency of our shutters. We know of no one else (including Neim Made / Norman) who is a fully vertically integrated company.

With a Sunland Shutters Lexwood shutter you get



of the paints and stains.

- 100% Basswood – not some unidentified “hardwood”
- 20 standard stain colors, 20 white colors and 720+ Designer Series colors – we are sure you can find a color your customer wants.
- Environmentally friendly - Low to no VOC
- Hidden Tilt hidden tilt rod – a popular add on sale item
- 2 ½”, 3 ½” and 4 ½” louvers
- The widest selection of specialties in the industry
- Quick manufacturing times – 6 weeks to the US for imported production
- Low wholesale prices to you – Better profits for you!
- Lifetime warranty to the end user on defects in materials or workmanship and a limited warranty on color fastness