The wood in WPC decking can be susceptible in fungal attack. Note the formation of a wood decay fungus growing out of this WPC board. Photo courtesy of Paul Cooper. Tennessee University Institute of Agriculture, U.S. Department of Agriculture and county governments cooperating.

should perform about as well as the same formulations. Natu- 
urally durable wood has also been used for decking for many years.

There is some concern that the smaller and smaller trees that are being used for naturally durable lumber might not be as durable as the older trees that were used in the past, but this has not been well documented.

WPC is a relatively new prod- 
uct, thus the potential durability is not well understood. It is often advertised as being insect- 
based because the plastic encapsulates and protects the wood fibers.

However, research and experience 
have demonstrated that the wood 
component of WPC can mold and 
rot. It should be considered that 
the wood should not be burned.

Environmental impact

This might be the hardest factor to evaluate, but it is 
becoming an increasingly important consideration for many 
people. Treated and naturally 
durable products are both made 
from trees. So, depending on your 
stance, this might be good for the environment and 
beneficial to the trees that come from forests, which 
are many other wood-based 
and is a key factor in choosing 
choice between these materials. 
product is currently underway; 
and the collection, recycling, 
and transportation of old WPC 
decking is a recycling concern for 
remanufacturers is likely to be pro-

Summary of decking lumber options

<table>
<thead>
<tr>
<th>Wood/ composite</th>
<th>Price</th>
<th>Accessibility</th>
<th>Maintenance</th>
<th>Durability</th>
<th>Ease of construction</th>
<th>Healthy &amp; safety</th>
<th>Environmental impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treated wood</td>
<td>Low</td>
<td>Widely available in many sizes.</td>
<td>Periodic cleaning: Application of water-repellent coating every 1-2 years.</td>
<td>Moderately durable</td>
<td>Low</td>
<td>Low</td>
<td>Moderate</td>
</tr>
<tr>
<td>Naturally durable wood</td>
<td>Medium</td>
<td>Some colors/ textures available</td>
<td>Periodic cleaning: Application of water-repellent coating every 1-2 years.</td>
<td>Moderately durable</td>
<td>Low</td>
<td>Low</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

For treated wood, there is concern over what happens to the waste material or the older lumber if it is removed from service. Currently the only options are reuse for a similar application or disposal in a landfill. Treated wood should not be burned.

WPC is tested as having environmental benefits because it is made from sawdust (a by-product of wood manufacturing) and recycled plastic. It should be noted, however, that many brands contain significant amounts of vir- gin plastic. WPC production also requires large amounts of energy. WPC is recyclable and compostable. The result is treated wood that is produced from rot and fungi for many years. Preservative-treated wood for decks is widely avail- able at most retail outlets. It is often green in color.

Many people are familiar with it because it is com- monly used. Brand names for this type of wood include Yel- lowwood, Preserve and Wolman- er Zene.

There are three main types of boards that can be used to make decks: preservative-treated wood, naturally durable wood and wood/plastic composite (WPC) lumber. Untreated, non-durable wood such as spruce/pine/fir, the most common lumber, is usually green in color and it is left raw and will not last long enough to justify any cost savings.

Treated wood

Preservative-treated wood can be added to otherwise susceptible areas to make it resistant to decay fungi (rot) and insects. Wood preser- 

References

| Wood/ composite | Price | Accessibility | Maintenance | Durability | Ease of construction | Healthy & safety | Environmental impact |
| Treated wood | Low | Widely available in many sizes. | Periodic cleaning: Application of water-repellent coating every 1-2 years. | Moderately durable | Low | Low | Moderate |
| Naturally durable wood | Medium | Some colors/textures available | Periodic cleaning: Application of water-repellent coating every 1-2 years. | Moderately durable | Low | Low | Moderate |
**Insects and Decay.** The reddish-colored heartwood portion is still sound. Redcedar post, most of the light-colored sapwood has been destroyed by attack. The heartwood in most naturally durable wood is darker in color than the sapwood, which is comparatively soft and may be attacked by insects and fungi that are adapted to feed on it. In some cases, decay-resistant wood may be used as a relatively inexpensive alternative to rigid insulation and provide a certain degree of water resistance. However, as with all materials, it is important to consider the environmental impact of using heartwood (the inner-core wood deposited in some species) as it is naturally durable wood.

### Availability

**Naturally Durable Wood.** This is wood that is naturally resistant to rot and insect attack. Examples include redwood, cypress, and southern yellow pine. These woods are naturally resistant to decay and require less maintenance than other types of wood.

**Synthetic decking.** This is wood that is produced in a factory and is often made from recycled materials. It is available in a variety of colors, shapes and sizes and with different surface textures.

**Durability**

Installing wood decking requires a deck or fence rail — chromated copper arsenate (CCA) treated wood or WPC lumber. Naturally durable wood has long standing (occurring) poisons that protect the wood. Staining — including that from WPC lumber — can be irritating to your lungs or skin.

**Maintaining a deck or fence can be an expensive and time-consuming process.** The deck or fence must be treated on time every year to prevent deterioration. The longevity of your deck, but each of the decking materials discussed here should provide many years of satisfactory performance. Most new wood and naturally durable wood can be removed from the wood preservative industry.

**Installing Wood decking.** Wood is a good choice for building decks or fences. Either preφurrock or wood can be used. However, the preservative finish will help the deck or fence stand the test of time. New treatments, which do not contain arsenic or chromium, are being developed for substituting for CCA. Besides wood, most other types of building products contain copper and other biocides, which are used in working with treated wood or WPC lumber. Naturally durable wood can be manufactured in a variety of shapes, sizes and colors and is often better known as “plastic lumber.”

**WPC lumber** is a combination of wood fibers, plastic, and a resin binder. It is a relatively new product and is made from wood fibers and is often better known as “plastic lumber.”

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