Wolman® E Copper Azole with BARamine® Technology

Wolman® E copper azole with BARamine® technology is a high-powered preservative blend that takes the traditional protection of copper azole and moves it steps ahead of other residential formulations. This cutting-edge combination exceeds the requirements of industry-approved products by providing increased penetration into wood while offering additional protection against copper-tolerant fungi and mold.

BARamine® technology is a patented innovation from Lonza, the pioneers of copper azole preservatives, that is only available through our licensed treaters.

This combination of copper azole with BARamine® makes Wolmanized® Outdoor® Wood ideal for decks, retaining walls, fences, picnic tables, planter boxes, walkways, sill plate and structural members. At appropriate retention levels, it can be used for above ground, ground contact, and freshwater immersion applications. Wolmanized® Outdoor® wood is backed by a limited warranty against termites and fungal decay. For warranty details, see www.WolmanizedWood.com/warranties.

Benefits of BARamine®

Wolman® E copper azole with BARamine® technology is an innovation that can enhance the performance of preservative-treated wood. It offers:

- Improved penetration
- Broad moldicide protection
- Improved resistance to certain aggressive copper-tolerant fungi
- More consistent preservative distribution
- More effective copper azole system
- Patented technology
What makes Wolmanized® Outdoor® Wood with BARamine® technology better?

**Improved penetration**
Deeper in the wood equals better protection.
Better penetration means a better product for you and for your customer.

**Clear results**
Tests were conducted on several species of wood to reflect the difference in the penetration level of Wolman® E copper azole with and without the addition of BARamine®. The dark color on the ends of the wood is the copper indicator, which reflects the level of penetration into the wood. The tests clearly show that using BARamine® aids in pushing the preservative deeper into the wood.

Above, the top two pieces of southern yellow pine are treated with Wolman® E micronized copper azole and the bottom two pieces of SYP are treated with Wolman® E micronized copper azole with BARamine® technology.

At left, hem fir treated with aged Wolman® E copper azole; at right, hem fir treated with aged Wolman® E copper azole with BARamine® technology.
More consistent preservative distribution
Our preservative is more evenly distributed.
The lumber receives more preservative that reaches the harder-to-treat areas, resulting in better distribution through all zones of the wood. This results in better performing wood.

![Impact of BARamine® on preservative distribution](chart)

**Impact of BARamine® on preservative distribution**

<table>
<thead>
<tr>
<th>MCA-C Retention, as % of Outer Zone</th>
<th>Outer Zone</th>
<th>Middle Zone</th>
<th>Inner Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper azole</td>
<td>100</td>
<td>95</td>
<td>90</td>
</tr>
<tr>
<td>Copper azole with BARamine®</td>
<td>95</td>
<td>85</td>
<td>80</td>
</tr>
</tbody>
</table>

In a commercial trial on 2”x6” dimensional lumber, significantly more preservative reached the middle and inner zones when used in combination with BARamine®.

Broad moldicide protection
Broader mold protection gives you more desirable wood.

BARamine® technology offers broader mold protection, giving you cleaner, brighter wood that can sit in your lumber yard looking beautiful longer.

At left, wood treated without adequate mold protection. At right, the addition of BARamine® technology helps prevent mold growth on wood.

Improved resistance to certain aggressive copper-tolerant fungi
Studies show less fungal decay.
You can offer the best for your customer, because our treatment extends beyond where standard preservatives leave off. BARamine® safeguards against certain fungi that other copper azole products don’t fight, giving more robust protection and greater peace of mind.

![Performance against copper-tolerant fungi](chart)

**Performance against copper-tolerant fungi**

<table>
<thead>
<tr>
<th>% Weight Loss</th>
<th>Poria</th>
<th>Antrodia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micronized copper azole</td>
<td>41%</td>
<td>31%</td>
</tr>
<tr>
<td>Micronized copper azole with BARamine®</td>
<td>31%</td>
<td>31%</td>
</tr>
</tbody>
</table>

In a decay test, treated blocks are exposed to aggressive copper-tolerant fungi in a harsh environment that accelerates decay. Wood treated with MCA + BARamine® reduces weight loss (decay) by >30%. With the added protection of BARamine®, a 41% improvement in performance against *Poria* species and 31% against *Antrodia* species was seen when compared to traditional copper azole treated wood.
More effective copper azole system
Do you want to just meet traditional expectations or do you want to exceed requirements?
Wolmanized® Outdoor® Wood preserved with Wolman® E copper azole and BARamine® technology takes the traditional protection of copper azole to a greater level.

Proven technology
Patented copper azole system
Copper azole has been proven globally for more than 20 years and is now combined with advanced patented BARamine® technology that is only available through Lonza.

It’s Real Wood
In addition to the preservative treatment that enables wood to last a long time, Wolmanized® Outdoor® Wood has all of the environmental and other advantages associated with wood itself. Its source is a renewable and rapidly replenished resource grown on managed timberlands, requiring less energy to produce than alternative building materials and offering greater insulation value. Growing trees absorb carbon dioxide and wood products sequester carbon, both reducing greenhouse gases.

Because of its lighter weight, wood can often be installed with lighter equipment having less environmental impact.

Wood offers excellent workability with common construction skills and tools, plus it provides design flexibility and is generally more economical than alternative materials. Furthermore, for many applications, wood is aesthetically preferable.
At Lonza Wood Protection, we envision a world built with wood.

We support a better quality of life for our communities by delivering technologies that enhance the performance and increase the longevity of wood, the world’s greatest renewable resource.

We are a trusted and innovative supplier of technologies and services in the field of wood protection, making wood resistant to termites, fungi, fire, mold and moisture while enhancing its beauty. We support our customers with an industry leading level of service, designed to ensure your success.

We are truly a global business, with locations around the world where we collaborate on product and technology platforms and share broad industry knowledge with regional market-focused technical, sales, marketing and regulatory expertise.

www.LonzaWoodProtection.com