

Borates for Log Homes

By Greg Steckler

Let's talk for a bit about borate treatments for your log home. If you've never heard of them, you are probably asking, why would I want it? Well, do you hate the thought of termites of all kinds eating at your house? How about Carpenter ants, Old House Borer beetles, powder beetles, and post beetles? Finally, how about Brown Rot, White Rot, mold, mildew and other wood decaying fungi? I didn't think so. You know, borates can and do kill all the above insects and organisms. Sound a little more interesting now? Let's get started.

What is borate? Disodium octaborate tetrahydrate, or DOT, (no not THAT DOT, this one really works!) is a borate salt compound that is formed from a union of boric acid and borax. This is the most common form of borate used in log home treatments. Various name brands of water based borate solutions are available, such as Armor-Guard, Timbor, Penetreat, Board Guard, and others. There are also several glycol based solutions, such as Bora-Care and Shell Guard. Finally, there are oil based and solid forms of the product, sold as rods that can be inserted into logs in your home and provide long term protection.

How do borates work? Borates are toxic to both insects and fungus species. One way the borate works is that it disrupts the enzyme system of the insect and destroys the microflora in the stomach of the insect, thus disallowing food digestion. Borates also affect the enzyme system of fungi. Finally, the active ingredient is a contact toxicant to fungus.

How do I apply it? First of all, it's important to realize that the borate needs to soak as far into the wood as possible. There can be no stain or other finish on the wood when the borate is applied. The best way to prep for borate is to cob blast the wood, making it even more porous. Every borate manufacturer has different methods of application and a special focus on what their product will do. Let's look at them as groups, and not brand names.

First, you have your glycol based treatments. These are marketed more for termite and other very long term applications. Check out www.Nisuscop.com and www.permachink.com for more info on each of these. Typically, these are mixed with warm or hot water and spray applied to saturation. The glycol is very good at pulling the active ingredients deep into the wood, where only saturation with water will remove them.

Second, there are water based solutions. You'll buy these as a powder in some size pail. So many scoops to the gallon, and again, you are spray applying these onto the wood surfaces you want to protect. Protection is good near the surface, about a quarter inch or so. A hard rain will wash it off, which is why you need to coat the wood soon after with a stain/sealer.

Third, there are borate rods. Cobra Rods and Impel Rods are the most popular. These rods are made for high risk areas of your house, such as log ends that get a lot of splashing water on them, or protrude out past the overhang. A hole is drilled, the rod inserted, and a plug tapped into place. If the log gets wet, the borate will diffuse into the surrounding wood, protecting it from rot.

Finally, taking into account that many borate treatments are applied specifically for the purpose of protection log homes, which will require a sealing stain treatment anyway to lock in the borate, there are a few companies working on a penetrating oil based application of borate, which will allow other ingredients such as base color pigments to be introduced deep into the wood as a conditioning step, after which a positive curing top coat is applied to “lock in” the borate.

While borate solutions are very good for pretreatments before staining the wood on your house, they only help prevent mold and mildew from forming UNDER the stain layer. They do NOTHING about mold or mildew on the surface of the stain. Only a periodic cleaning will remove that mold or mildew, and borate treatments should never be viewed or presented to a consumer by a restoration contractor as a way to avoid regular maintenance.

Originally appeared in the column, The Log Home Corner and reprinted here by permission from the author, Rich Littlefield

Rich Littlefield has been in the log home restoration industry for almost a decade. In addition to using almost every commercially available stain in the area, he has developed a stain system that addresses concerns found specifically in the Southeast geographic region. He has given restoration and maintenance seminars at various log home shows and manufacturer sponsored events. He also offers maintenance seminars and plans for Home Owners Associations, commercial complexes, and individuals. Finally he is fully involved in consulting, evaluations, and offering restoration services and supplies. If you have any questions that you would like answered, please visit his website at bearcreekloghomerestoration.com and email him from there.