SILLBOR® BORATE TREATED WOOD

Specification Data

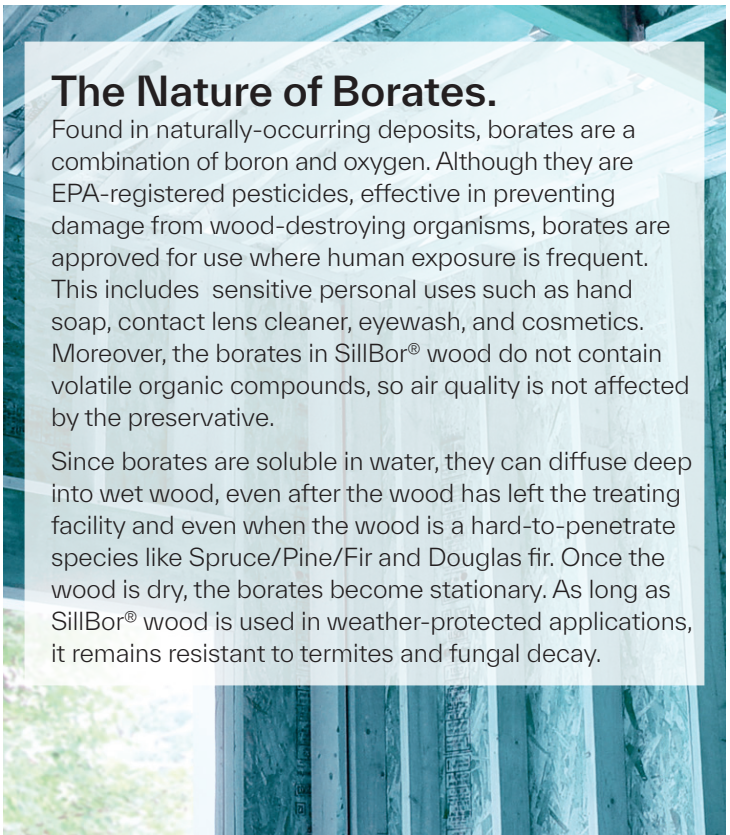
SillBor® BORATE-TREATED WOOD

WolmanizedWood.com

Devised for sill plate, but useful in varied applications, SillBor® borate-treated wood provides the economy and workability of ordinary wood while adding years of life to typical wood structures.

The boron-based preservative is forced into wood under pressure, but also diffuses naturally into areas of the wood unreached by the treatment procedure. This double process – pressure and diffusion – enables the preservative to penetrate more completely than by pressure alone.

SillBor® borate-treated wood is suited for sill plates, trusses, wall plates, ceiling joists, floor beams, door frames, and other interior applications not subject to direct contact with the ground or where there is normally no contact with water. It is an ideal building material where leaching is not a normal hazard except during the initial period of construction. SillBor® wood has a blue colorant added for identification purposes.



The Nature of Borates.

Found in naturally-occurring deposits, borates are a combination of boron and oxygen. Although they are EPA-registered pesticides, effective in preventing damage from wood-destroying organisms, borates are approved for use where human exposure is frequent. This includes sensitive personal uses such as hand soap, contact lens cleaner, eyewash, and cosmetics. Moreover, the borates in SillBor® wood do not contain volatile organic compounds, so air quality is not affected by the preservative.

Since borates are soluble in water, they can diffuse deep into wet wood, even after the wood has left the treating facility and even when the wood is a hard-to-penetrate species like Spruce/Pine/Fir and Douglas fir. Once the wood is dry, the borates become stationary. As long as SillBor® wood is used in weather-protected applications, it remains resistant to termites and fungal decay.

Protection against...

Termites... Termites are a problem in much of the United States. The southern United States is an ideal habitat for subterranean termites. Now there is the added threat of the Formosan termite. This voracious species poses an even greater problem because of its huge colonies and destructive appetite. Many homeowners have found that, against some termites, standard soil treatment alone is an inadequate defense.

Rot & Decay... The fungi that cause wood rot exist throughout the United States. SillBor® wood provides a shield with warranted protection for the home's sill plate and other interior uses.

Cockroaches and other pests... A laboratory study reported in the Forest Products Journal found only one of 60 cockroaches alive after 28 weeks exposure to borate-treated wood. Meantime, in control enclosures with untreated wood, the cockroach population increased from 60 to 201. The particular species of cockroach tested is considered an indicative organism for other non-wood-destroying pests. The authors conclude, "The results suggested that borate pressure-treated lumber may provide control of cockroaches in the immediate vicinity."

Retention Requirements of the American Wood Protection Association			
B_2O_3 (pcf)	DOT equivalent	Re-dried after treatment	Application
0.17	0.25	optional	Not for use where Formosan termites are present
0.28	0.42	optional	Warranted against Formosan termites

Species and products

Per AWPA standards, borates can be used as a pressure treatment to preserve the following species.

- Lumber (without incising): southern pine, hem-fir, jack pine, spruce/pine/fir, ponderosa pine, lodgepole pine, red pine, and eastern white pine
- Lumber (with incising): coastal Douglas fir and western SPF
- Plywood: southern pine and Douglas fir Borates can also be included in the resin binder in the manufacture of OSB products, such as wall sheathing, roof sheathing, radiant barrier panels, and floor sheathing.

Industry acceptance

Sodium octaborate is listed in AWPA preservative standards and is referred to as SBX. SillBor® wood meets the requirements of AWPA standard U1, and is suitable for Use Categories UC1 and UC2.

Retention levels

SillBor® wood can be used only above ground, but there are two retention levels. Each level can be measured on the basis of boric oxide or disodium octaborate tetrahydrate (DOT).

- 0.17 pcf (B_2O_3)/0.25 pcf (DOT)
- 0.28 pcf (B_2O_3)/0.42 pcf (DOT)

The lower retention is not effective against the Formosan termite (Coptotermes formosanus), but the higher level is.

Code compliance

Borate-treated wood is referenced in the following model codes.

- International Building Code: section 2308.1.8, preservative treated wood
- International Residential Code: section R319.1, protection against decay
- International Residential Code: section R320, protection against termites

Design values

Borate treatment has no significant effect on the strength of lumber or plywood.

Color

By itself, the borate treatment is clear, leaving wood with a natural appearance. In order to distinguish SillBor® wood from untreated wood, a blue dye is added to the treating solution, giving a blue tone to the material.

Jobsite storage

SillBor® treated wood is intended for weather-shielded, above ground use. To prevent contact with water at a jobsite, it is best to store borate-treated wood off the ground and covered.

Exposure during construction

Although it is advisable to avoid exposure to water, it is often impractical to provide total protection during construction. Normal exposure to the elements does not affect the long-term performance of SillBor® treated lumber. If a partially built structure is left uncovered for an extended period of time, steps should be taken to shield the wood from precipitation.

Construction practices

SillBor® wood handles very much like ordinary wood. It can be drilled, sawn, glued, and finished with standard woodworking tools, just like untreated wood. No end cut treatment is necessary for sawn cross-sections or bored holes.

Hardware

Wood such as SillBor®, treated with the DOT type of borate, has been found to be no more corrosive than traditional CCA-treated wood. Code-compliant hardware is adequate. While galvanized fasteners and connectors are preferable, the use of non-galvanized hardware of sizes and types approved by the model code is acceptable when attaching joists, studs, or other framing to SillBor® wood, provided the wood will remain dry in service, protected from weather and water. Under similar conditions, the use of standard galvanized strapping or mild steel anchor bolts 1/2" in diameter and larger is also acceptable for fastening SillBor® wood to foundations.

Exterior applications

This wood must be protected from rain in order to retain its preservative qualities. This can be accomplished by application of a good primer and two coats of exterior grade paint. SillBor® wood will remain effective in exposed applications only when the wood is kept well painted. If for any reason the wood becomes wetted under the paint film, adhesion may be impaired.

Warranty

SillBor® treated wood, used in qualifying residential and agricultural structures, is backed by a limited warranty against damage from termites and fungal decay. Contact producer for details or visit www.SillBor.com.

Relative hazard of subterranean termite infestations in the United States.
Source: USDA Forest Service of Home and Garden Bulletin 64, 1986.