TERMITES

BORA-CARE® TECHNICAL BULLETIN

BORA-CARE® Termiticide, Insecticide and Fungicide is a highly effective pesticide which offers an innovative approach for the control and elimination of termites. Rather than preventing or treating infestations by creating a toxic barrier in the soil surrounding a home or structure, BORA-CARE is designed to treat the termites' food source; wood and other cellulosic materials. Upon application to bare wood, BORA-CARE rapidly penetrates and eliminates active infestations of termites, as well as beetles, carpenter ants and decay fungi. In addition, BORA-CARE provides long term protection against future infestations. When applied at label rates, BORA-CARE treated wood is both toxic and repellent to termites, thus offering a unique alternative to more traditional soil poisons and fumigants. For those states that require soil poisons, BORA-CARE can be used alongside these typical treatments to assure protection.

BORA-CARE can be applied to bare wood, plywood, particle board, Oriented Strand Board (OSB), cardboard, paper, and other cellulosic materials which termites eat.

HOW BORA-CARE COMPARES TO OTHER TERMITICIDES

The active ingredient in BORA-CARE is a combination of borax and boric acid. This makes BORA-CARE a low toxicity product that does not adversely affect the environment. Since BORA-CARE is only applied to the termites' food source, less pesticide is required around the home. In addition, BORA-CARE has NO odor and the treated wood is safe to handle.

WHY BORA-CARE WORKS

BORA-CARE consists of a concentrated solution of active ingredient combined with penetrants that dramatically enhance both wood penetration and efficacy. The rate at which the active ingredient penetrates into the wood is determined by the wood species and moisture content of the wood being treated. Compared to other powdered borate products, BORA-CARE provides the highest level of toxic active ingredient throughout the wood.

BORA-CARE provides double protection by acting as both a contact poison and a repellent to termites. As a contact poison, it will kill termites that come in contact with treated wood. University studies show that BORA-CARE will provide 100 percent mortality to termites in just five days. This is an advantage, since termites are repelled or eliminated before wood damage occurs.

Ongoing tests that are being performed at the USDA Laboratory in Gulfport, MS, have emphatically demonstrated BORA-CARE's ability to stop subterranean termites from tunneling over wood. Wood treated more than eight years ago and subjected to the most intensive termite pressure, still shows no sign of termite damage or termite tubing.

The time required to eliminate a termite infestation with BORA-CARE depends on many factors including lumber thickness and accessibility, wood moisture content, termite species, degree of infestation and thoroughness of application. Control of drywood termites may take longer, in some cases, due to low moisture content in the infested wood.

APPLICATION METHODS
SPRAY AND BRUSH APPLICATIONS

For treating subterranean or drywood termites, simply spray or brush area to be treated to the point of wetness. If only one or two sides of a wooden member are accessible, or a heavy infestation is present, apply two coats of BORA-CARE solution, waiting 20 minutes between applications. A spray or brush treatment of a localized but moderate infestation of subterranean termites in dimensional lumber will typically be controlled within one to three weeks. During this time, very little wood will be lost to feeding as can happen with other borate based products.

If wood members are greater than 3.5 inches thick, or when treating for drywood termites, a combination of spraying or brushing along with injection into galleries will yield quicker results than spray or brush application alone. In large beams and timbers, especially those with low moisture content, injection of solution into galleries in addition to spraying will considerably shorten time it takes for control.

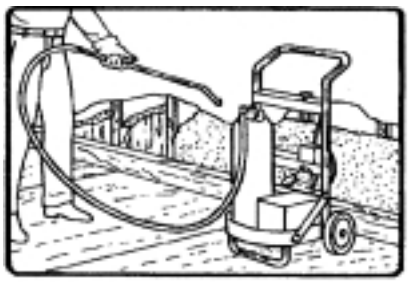
INJECTION

When treating sound or painted wood, drill small holes 8 to 10 inches apart. Inject diluted BORA-CARE into each hole for 4 - 6 seconds at 40 psi. In infested wood, inject BORA-CARE solution into a kick-out hole or a single hole drilled to intercept a gallery. Apply solution until the gallery is flooded or solution emerges from the wood. Note the point where the solution emerged and drill and inject subsequent holes, one at a time, until the entire infested area is treated.

For treating wall voids, special application tips are available from various manufacturers. Small holes should be drilled vertically beside the studs, 18" to 24" apart along each member to be treated. At least one hole should be centrally located between each wall stud, above the floor plate when treating base plates. Apply at least 1/3 fluid ounce of diluted BORA-CARE per hole covering all wood to the point of wetness. If insulation is present in the void, a foam treatment is preferable since it provides better coverage of the area to be treated.

FOAMING

Another technique for applying BORA-CARE is foaming. In existing structures where construction is complete, wood can be treated without removing sheetrock or other wall covering by drilling small holes (at least one per void) and applying



Foaming Wall Voids

Treating Attic Areas

Pretreating

enough foam to fill the void up to the desired level. Preventive treatments for subterranean termites require filling only the bottom two feet of wall void. The level of the foam in the void may be determined by using a "through-the-wall" moisture detector. **Always turn off circuit breakers or remove fuses on circuits leading to electrical outlets before foaming voids!**

Foam applications of BORA-CARE are particularly suited for treating and preventing infestations of drywood termites. Apply into voids around door casings and window frames, into hollow porch columns, and other painted or inaccessible areas.

Wood flooring in place over concrete slabs may also be treated by foaming the voids between sleepers. Determine the direction the sleepers run and drill small holes between the sleepers five to six feet apart. Starting at one end of the floor, inject BORA-CARE foam into the first hole and when you see it in the second hole, plug the first and inject foam into the second until you see it in the third. Repeat the process until all voids under the floor are treated. Look for any bracing or other blockages which may prevent passage of the foam. If necessary, drill additional holes to bypass any obstructions.

A foam expansion ratio of between 1:20 and 1:30 is desirable for most situations. Use a 1:30 foam ratio for wall voids. Refer to the label on the foaming agent for information concerning foam ratios and material calculations.

SUBTERRANEAN TERMITES

If a BORA-CARE treatment is only for the elimination or prevention of subterranean termites, excluding Formosan termites, it may not be necessary to treat all of the wood in a structure. **Recent tests by the USDA show that eastern subterranean termites will not successfully tube over wood treated with BORA-CARE.** It is possible, given accessibility to wood in key areas, to create a "barrier" of treated wood around an entire structure.

For buildings on crawl spaces and basements: treat a two foot wide, uninterrupted band of wood around the perimeter to include sill plates, floor joists, piers, girders, and subfloors as well as areas exposed to vertical access to the soil, such as plumbing and electrical penetrations. In addition, treat the bottom two feet of exterior and interior sheathing and all first floor wall base plates and the bottom two feet of all interior and exterior wall studs (see Diagram 1 and Diagram 2) or buildings on slabs: treat the bottom two feet of exterior and interior sheathing as well as the first floor base plates and the bottom two feet of all interior and exterior wall studs and any wood around plumbing, electrical, and other penetrations through the slab (see Diagram 3).

PRIMARY TREATMENTS WITH BORA-CARE

BORA-CARE is labeled by the EPA as a primary termiticide treatment for both eliminating existing infestations and preventing future infestations. BORA-CARE should also be used as an integral part of any Integrated Termite Management (ITM) program. As a primary treatment, BORA-CARE will control termites in many settings including sensitive situations such as homes with wells or cisterns or those on or near lakes or streams. Since it is applied only to the structure and not to the soil, the potential for contamination and associated liability is greatly reduced.

When using BORA-CARE as a primary treatment, it is important to recognize that wood that has not been directly treated may not be protected. For instance, a home on a slab might have all the wood pre-treated with BORA-CARE during construction and that wood will certainly be protected from termite damage. However, should a crack occur in the slab in the center of a room providing termites access, carpet backing or untreated molding could be

Key areas to treat in order to provide a "barrier" against subterranean termites. The number in parentheses refers to the number of applications of a 1:1 BORA-CARE solution which must be applied

Diagram 1
Basement or crawl space sill assembly.

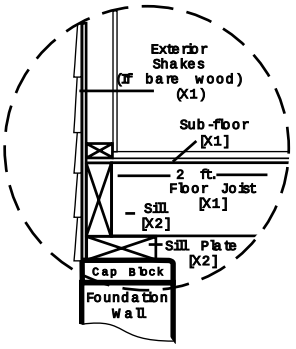


Diagram 2
Wood in contact and surrounding crawl space piers.

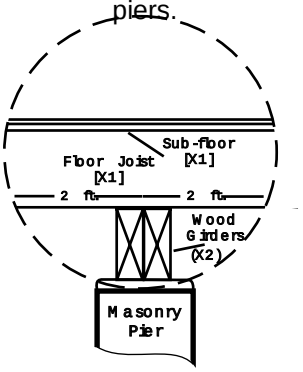
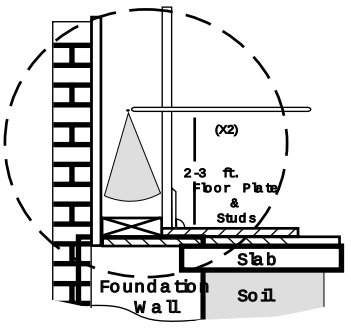
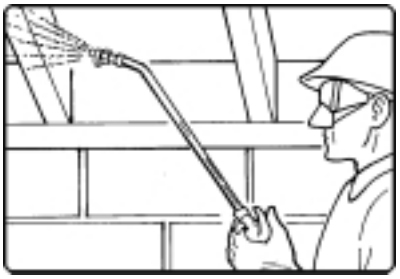


Diagram 3
Slab construction exterior wall floor plate, studs, and sheathing.





Treating Crawl Spaces and Basements

Treating Outdoor Structures

Treating Wood Floors

subject to damage. On the other hand, should a crack appear under an interior wall where the wood members have been treated, damage will be avoided.

PRETREATMENTS WITH BORA-CARE

Structures may be treated with BORA-CARE as a primary treatment during the construction process when access to all wood members is available. Normally this is at the "dried-in" stage of construction when all structural wood and sheathing is in place and prior to installation of drywall, insulation, mechanical systems, and electrical wiring.

When planning a full house pretreatment, the area you live in and type of construction must be taken into consideration. For example, if protection is desired for BOTH subterranean termites AND drywood termites, it will be necessary to treat the "barrier" zones with a 1:1 BORA-CARE solution. The remainder of the wood susceptible to drywood termite attack can then be treated with two applications of a 5:1 BORA-CARE solution.

SUPPLEMENTAL OR PARTIAL TREATMENTS

In states that require soil-based poisons, BORA-CARE is ideal as a supplement that will enhance the effectiveness of traditional soil treatments and baiting programs as part of an Integrated Termite Management (ITM) program. Subterranean termite colonies are usually located in the soil under or around an infested home or structure. However, termites such as desert subterranean or Formosan termites frequently establish satellite or above ground colonies without maintaining soil contact. If enough moisture is present from a plumbing or roof leak, a termite colony can avoid conventional soil termiticide treatments. BORA-CARE is actually attracted to moisture. Its direct application to infested wood, wall voids, or termite cartons will rapidly eliminate these types of infestations.

SPOT TREATMENTS: BORA-CARE may be used to "spot treat" active drywood termite infestations. BORA-CARE may also be used to supplement and enhance the effectiveness of fumigations. Once the fumigation has been performed, treat those areas most susceptible to reinfestation in order to provide residual protection.

TREATING FOAM PANELS

Subterranean termites will occasionally infest foam insulation panels around foundations and under stucco and other types of siding. Termite infestations in foam may be treated by spraying the infested area, if accessible, or by drilling and injecting diluted BORA-CARE directly into termite galleries.

Voids behind foam panels may be treated by injecting BORA-CARE as a foam (see FOAMING). Inject foam at the interface of the foam panel and sheathing or backing material. Drill holes on a grid pattern to ensure adequate coverage of infested area.

FORMOSAN TERMITES

Formosan termites present more of a challenge to traditional control methods than our native termite species since they often establish aerial infestations. When treating for Formosan termites, it is necessary to treat all accessible wood in a structure using the application techniques as described above.

When spray applying BORA-CARE for the elimination or prevention of Formosan termites, it is important to use a 1:1 solution applied at the full labeled rate.

DRYWOOD TERMITES

Drywood termites need very little water to survive and do not rely on contact with the soil for moisture. Typically controlled by fumigation, a re-infestation of drywood termites can occur unless the wood has been protected with a long lasting residual pesticide such as BORA-CARE. BORA-CARE may be used to treat accessible infestations. It should also be used in conjunction with fumigations to treat heavily infested or damaged areas and add an extra measure of security to the job. The BORA-CARE treatment should be performed after fumigation so as not to inhibit penetration of the fumigant.

PREVENTIVE OR PRETREATMENTS: Drywood termite preventive treatments may be accomplished in attics, around door and window frames, and other areas highly susceptible to attack. Refer to Application Rate Chart for the recommended dilution ratios for various applications and the BORA-CARE label for complete application instructions.

EXTERIOR TREATMENTS FOR BOTH SUBTERRANEAN AND DRYWOOD TERMITES

Exterior wood surfaces can be treated with BORA-CARE (refer to the BORA-CARE label for appropriate dilution ratios and application methods). Exterior treated wood surfaces should be coated with a water repellent finish such as paint, stain in order to prevent the loss of active ingredient through leaching.

TREATING WOOD IN CONTACT WITH THE GROUND

BORA-CARE may be applied to wood in contact with the ground or soil. However, water passing through the wood will eventually extract the active ingredient, limiting the duration of control. While a BORA-CARE treatment will eliminate active infestations, a better approach is to inject JECTA® DIFFUSIBLE BORACIDE into the ground contact areas. In addition to eliminating and protecting the wood from subterranean termites, JECTA is also effective against decay fungi. Refer to the JECTA DIFFUSIBLE BORACIDE label for complete application instructions.

It is not intended that this product be used to practice any applicable patent, whether mentioned or not, without procurement of a license, if necessary, from the owner, following investigation by the user.

BORA-CARE® APPLICATION RATE CHART

For Subterranean, Formosan and Drywood Termites*

TYPE TREATMENT	WHEN TO USE	APPLICATION INSTRUCTIONS	COVERAGE PER 1 GALLON OF 1:1 SOLUTION
24" BARRIER TREATMENT Basement/Crawl Space	Use as preventive treatment against Subterranean and Formosan termites or where active infestations are confined to outer perimeter of structure.	Apply to all wood in a 24" area from exterior wall, including sill plate, header joist, floor joists and subfloor. Apply second coat on sill and header joist. Apply to all wood in foundation pier and area 24" out from foundation pier contact with floor.	100 lineal feet (Measure lineal feet of all foundation walls to be treated)
ALL WOOD Basement/Crawl Space	Use as preventive treatment against Subterranean, Formosan and Dry Woods where large areas of wood are susceptible to invasion or where active infestations exist in areas other than outer perimeter of structure.	Apply to sill plate, header joists, floor joists and subfloor. Apply second coat on sill and header joists.	200 square feet (Measure area - length X width)
24" BARRIER TREATMENT Slab Construction First Floor	Use as preventive treatment or for active infestation of Subterranean and Formosan termites.	Apply to sill plate and 24" up on studs and other wood members including exterior sheathing. Apply second coat on sill.	200 lineal feet (Measure lineal feet of stud walls to be treated)
EXTERIOR SHEATHING	Use along with other treatments or as All Wood treatment against Subterranean, Formosan and Drywoods.	Apply to exterior sheathing to point of wetness.	400 square feet (Measure area - length X width)
ENTIRE STUD WALLS All Foundations	Use as preventive or against active infestations of Drywoods, Subterraneans and Formosans.	Apply to all wood in walls to point of wetness.	50 lineal feet (Does not include sheathing)
SECOND FLOOR AND EACH ADDITIONAL FLOOR	Use as preventive or against active infestations of Drywoods.	Apply to sill plate, studs, sheathing and other wood members of exterior walls and other wood susceptible to invasion. Apply second coat on sill.	400 square feet (Does not include sheathing)
ATTIC AREAS	Use as preventive or against active infestations of Drywoods.	Apply to trusses, rafters, sheathing and all wood members, paying special attention to eave areas.	200 square feet (Measure area length X width)

FOAMING - Refer to label instructions.

*** For Drywood Termite Prevention - two applications of a 5:1 water to BORA-CARE solution may be used.**

The application rates and instruction on this chart are based on standard building practices and materials. All Application rates are based on BORA-CARE label instructions. Always read the BORA-CARE label before application.

Products available from:

PRG, Inc. 1-800-774-7891