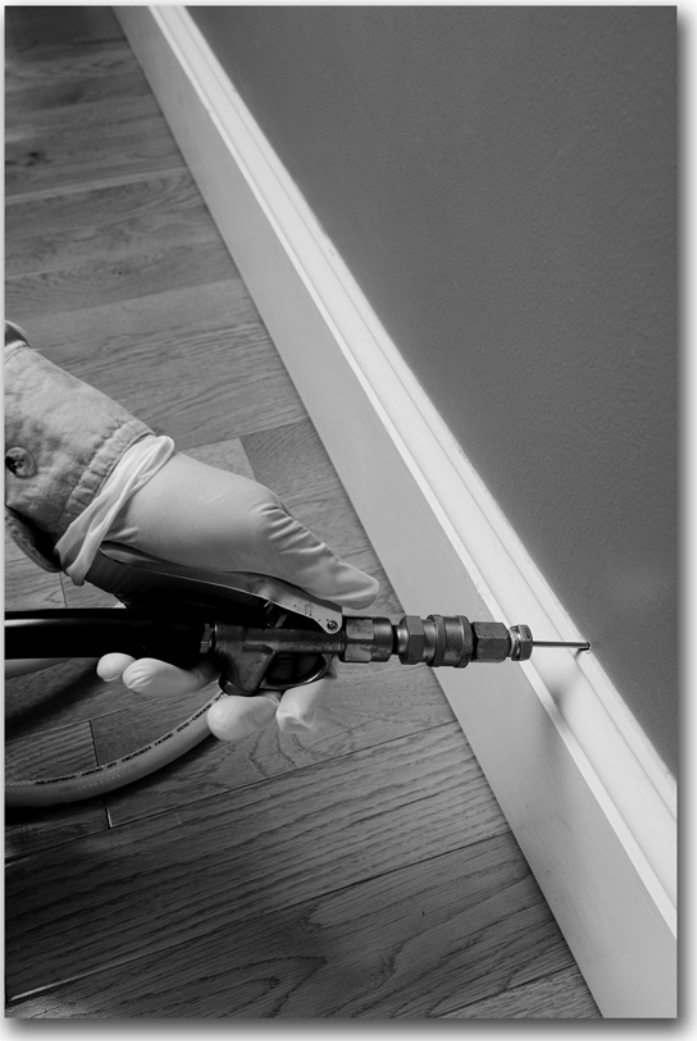
Bora-Care®
Technical
Bulletin

EXISTING CONSTRUCTION TREATMENTS FOR THE PREVENTION OF

Subterranean Termites



Nisus CORPORATION

The World's Leader in Borate Technology

BORA-CARE® TECHNICAL BULLETIN:
Existing Construction Treatments for the Prevention of Subterranean Termites

(ALWAYS READ LABEL COMPLETELY BEFORE ANY APPLICATIONS.)

INTRODUCTION

Bora-Care is a highly effective, long-lasting termiticide, insecticide and fungicide concentrate that can be used against active subterranean termite infestations and other wood destroying organisms in existing construction. Since its introduction to the pest control industry in 1990, Bora-Care has protected wood against wood destroying organisms (WDOs) such as termites, powderpost beetles, carpenter ants and decay fungi in both preventative and remedial treatments.

Bora-Care penetrates wood components and may be used on all cellulosic materials including wood, plywood, particle board, paper, oriented strand board (OSB), cardboard and wood composite structural components to protect them from WDOs. It may also be applied to concrete block, metals, PVC plumbing pipes, bath traps and other non-cellulosic materials found in structures. This will keep termites out of a structure's potential entry points, preventing wood damage.

Existing construction treatments may include:

- 24-inch band treatments to prevent subterranean termite infestation
- Spot treatments of WDO-infested areas
- Remedial or preventative treatments in areas such as attics, basements, crawlspaces or enclosed wall voids.
- Complete whole-house treatments using a combination of the above treatments

See *Table A* for the Bora-Care solution ratios appropriate to the kind of treatment(s) you need to do.

Always check area regulations to make sure your treatment program is in compliance.

WHY BORA-CARE IS ENVIRONMENTALLY FRIENDLY

Bora-Care as a concentrate contains an active ingredient of 40% Disodium Octaborate Tetrahydrate (DOT) and incorporates a patented glycol mixture that enhances penetration and absorption of DOT into wood. Bora-Care has very low oral and dermal toxicities and when applied to a structure will not adversely affect the environment. Since Bora-Care is only applied to the food source of wood destroying organisms and/or termite entry points, less pesticide and water is required. In addition, Bora-Care has very low odor and the treated wood can be handled when dry. Bora-Care emits no VOCs (volatile organic compounds).

Little risk is associated with Bora-Care when properly applied or used. However, it is a legal requirement to always follow the label and to wear the specified personal protective equipment. Refer to label and MSDS for specific information.

COMPATABILITY

Bora-Care will not corrode metals normally used in

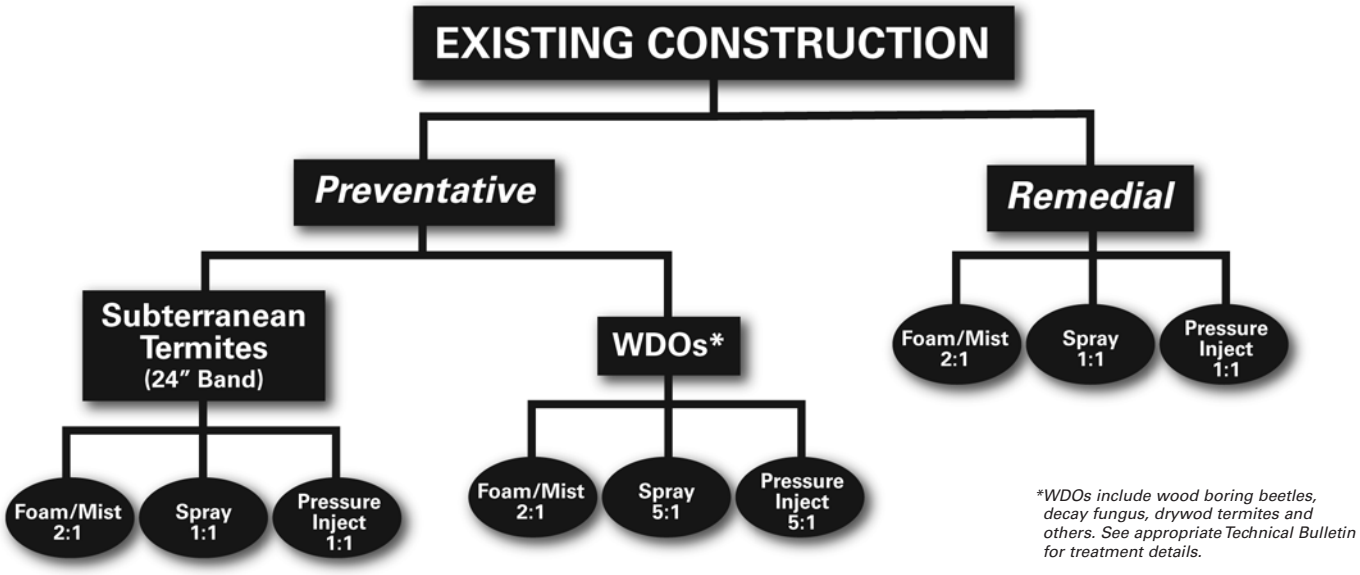


Table A: *Bora-Care solution ratios by treatment type*

construction, including ferrous metals, galvanized metals, screws and nails. Bora-Care will not affect electrical wiring, but it is recommended that power is turned off until the area is dry.

Bora-Care will not discolor most wood and is compatible with most paints and sealants. If the aesthetic look of the wood is a concern, test a small, non-visible area for discoloration. After the test section has dried, apply the paint or sealant (if one will be used) to ensure compatibility.

HOW BORA-CARE WORKS

Rather than creating a toxic barrier in the soil surrounding a home or structure, Bora-Care is applied directly on the structure. Bora-Care provides double protection by acting both as a toxicant to subterranean termites and as a deterrent to termite tubing. For more information on how and why Bora-Care works, see our web site, *www.nisuscorp.com*.

HOW TO CONDUCT EXISTING CONSTRUCTION/REMEDIAL TREATMENTS

Inspection

Inspect all areas of the structure, concentrating on the foundation areas, window framing, door framing, baseboards and all areas where subterranean termites are known to infest or enter a structure. Inspect for signs of infestation such as wings and bodies of swarming alates, termite shelter tubes, live termites or wood damage. For inaccessible or non-visible areas of possible infestation, use the latest available technology and equipment to inspect these areas.

Calculating the amount of Bora-Care required

Measurement of the area to be treated is required to determine the amount of Bora-Care solution needed for a label application and a particular treatment. When determining the amount needed, always try to avoid extra or leftover solution. It is very difficult to list exact product application usage due to varying building construction and materials found in structures in different parts of the country. As a result, the following product usage information should be considered a general guideline and not a standard of application. It is based on label applications in common building construction. For situations not covered in this technical bulletin, contact Nisus Corporation.

Bora-Care wood applications are based on treating board feet of lumber. Approximately 1 gallon of Bora-Care solution (regardless of the ratio of water to Bora-Care) will be needed to treat 400 sq. ft. of 1" thick wood surface area or 400 board feet. The actual amount of Bora-Care solution needed will depend on the amount of wood to be treated and whether injection as well as spray or foam is needed. Topical spray applications will require a second application in areas where only 1 to 2 sides of a wood member is exposed. The second application can be done after a 20-minute delay. NOTE: The quantity of Bora-Care needed for lineal or square feet of wood remains the same whether applying one application to all sides of the wood, or when applying two coats of solution to one to two sides of a wood component.

On non-cellulosic materials, the calculation is based on surface area. Approximately 1 gallon of Bora-Care mixed solution will be needed to treat 400 sq. ft. of surface area.

One accurate and fast method to measure linear footage is to use a measuring wheel around the outside foundation areas to be treated and using a tape measure or "clean" measuring wheel for the linear footage of the interior areas to be treated.

To determine the amount of Bora-Care needed to treat an area, use the *Application Rate Chart* and the *Existing Construction Application Worksheet* found at the end of this bulletin. The *Application Rate Chart* lists various construction foundations and gives instructions and amounts of Bora-Care to be used on both wood and non-cellulosic areas, and is based on registered label applications. The *Application Rate Chart* shows a simple way to total all application areas. (See *www.nisuscorp.com* to download an interactive spreadsheet version.)

Application Safety

Before beginning any chemical treatment, it is important to consider safety in application. According to the Bora-Care label, the applicator must wear a long-sleeved shirt, long pants, socks, shoes, chemical resistant gloves and protective eye wear. When applying Bora-Care in a confined area with no ventilation, wear a NIOSH approved respirator.

If spraying or drilling overhead, tarp or cover surfaces underneath the work area in preparation for solution that may exit galleries. Spills or over-spray can be cleaned with a damp cloth or absorbed with appropriate materials. (Read label for complete safety information.)

Be careful not to over-apply foam or mist in wall voids or you may create a moisture concern, as solution may leak out of wall area.

Mixing Bora-Care

Per label requirements, for a 24" band preventative subterranean termite treatment, Bora-Care concentrate must be mixed with water as a 1:1 solution (one part water to one part Bora-Care concentrate) for subterranean termite remedial control applications when applied as a spray. For example, on a single family home, add the application amounts needed for an existing structure. *Remember:* Only mix enough Bora-Care 1:1 solution needed for that day's

applications. The 1:1 solution should not be stored in the spray tank or other container for more than 24 hours. Refer to label for specific directions.

For example, to mix four gallons of Bora-Care solution, you will need the following equipment and materials:

- A five-gallon pail
- 2 gallons water (Warm water may reduce mixing time, but is not required.)
- Mixing impeller like those used to mix paint – preferably plastic (a plastic tip "Squirrel Brand" mixing impeller works very well without chipping the plastic sides of the mixing container). If using a metal mixing impeller, do not allow the impeller to touch sides or bottom of pail. This may create small plastic chips that could clog spraying equipment.
- Drill
- Recommended personal protective equipment, including long-sleeved shirt, gloves and eye protection.
- 2 gallons Bora-Care concentrate
- OPTIONAL: To make it easier to see where Bora-Care solutions have been applied, an appropriate dye or colorant may be added to the solution when diluting Bora-Care with water. Refer to the dye/colorant product label for recommended amount to add to the Bora-Care solution.

NOTE: Using a marker dye or pigment in Bora-Care solutions on surfaces that will be visibly displeasing to the customer is not recommended. Dye/colorant color or darkness does not indicate the amount or concentration of Bora-Care applied. If dye/colorant is applied to non-target areas, be sure to clean with water immediately.

1. Pour 1½ gallons of water into a five-gallon pail.
2. Attach mixing impeller to drill and begin agitation.
3. Gradually pour two gallons of Bora-Care into water and continue to mix solution.
4. Use the remaining 1/2 gallon of water to triple-rinse the two Bora-Care containers and pour contents into mixing solution.
5. Continue to mix until solution becomes clear or you do not feel resistance of any remaining concentrate. Normal mixing time may be 5-10 minutes.

APPLICATION METHODS AND TOOLS

There is no one tool that can effectively apply Bora-Care in all situations. The use of these applications is designed to provide for a label application of Bora-Care on wood and cellulosic materials that are subject to possible attack by subterranean termites.

The following is a description of the equipment and treatment methods that exist today:

Application Methods:

2-4 gallon spray applications:

Use a 2-4 gallon handheld stainless steel sprayer or backpack sprayer to apply up to 2-4 gallons of solution at a time.

10-100 gallon spray applications: For larger amounts, a 10-100 gallon spray unit with mechanical pump is recommended. For best results, this unit should also have mechanical agitation for proper mixing to prevent any potential clogging of spray equipment.

TABLE B: BORA-CARE DILUTION RATIOS & APPLICATION METHODS
For Preventative and Remedial Treatment of Subterranean Termites in Existing Homes

Dilution Ratio	Application Notes
1 part water to 1 part Bora-Care (1:1) for spray or drill/inject treatments	Spray, mist or foam bare wood with an appropriate dilution of Bora-Care solution to the point of wetness. When possible, drill and inject solution directly into active infestations. Inaccessable areas (such as between studs in wall voids) shold be foamed or high-pressure misted, or drill and inject through wallboard directly into studs with actve infestations.
2 part waters to 1 part Bora-Care (2:1) for mist or foam treatments	

TABLE C: COVERAGE AREAS FOR ONE GALLON OF BORA-CARE SOLUTION

- 400 board feet of lumber
- 400 sq. ft. of 1" thick or less plywood or OSB (sheathing treated 1x on 2 sides OR 2x on 1 side)
- 200 linear feet of exposed stud walls to a height of 24"
- 50 linear feet of 8' high exposed stud walls
- 200 sq. ft. of crawlspace (when entirety is treated)
- 100 sq. ft. of crawlspace (when only 24" band on perimeter is treated)

TABLE D: APPLICATION RATES FOR BORA-CARE SOLUTION		
TYPE OF AREA	**MISTING / INJECTING**	**FOAMING**
Uninsulated Wall Voids	***Mist 24" band:*** Use 1 oz/void (= 7.5 oz / 10 l.f.) ***Mist Entire Void:*** Use 3.5 oz/void (= 26.25 oz / 10 l.f.) ***Mist Drywall-Concrete Combo Voids:*** Use 2oz / void (= 15 oz / 10 l.f.)	***Foam 24" band:*** Use 20-40 oz/void (= 150-300 oz / 10 l.f.) ***Foam Drywall-Concrete Combo Voids:*** Use 15-20 oz/void (= 112.5-150 oz / 10 l.f.)
Insulated Wall Voids	***Mist Drywall Voids:*** Use 2 oz/void (= 15 oz / 10 l.f.) ***Mist Drywall-Sheathing Combo Voids:*** Use 3 oz / void (= 22.5 oz / 10 l.f.)	***Foam Drywall Voids:*** Use 40 oz/void (= 300 oz / 10 l.f.) ***Foam Drywall-Sheathing Combo Voids:*** Use 60 oz/void (= 450 oz / 10 l.f.)
Window & Door Frames	***Mist*** a 2:1 solution ***Inject*** a 1:1 solution at a rate of 1 oz / l.f.	***Foam*** a 2:1 solution at a rate of 10 oz / l.f.)
Soffitts & Eaves	***Mist*** a 2:1 solution at a rate of 12 oz / 10 l.f.	N/A

High Pressure Misting Unit: High pressure developed from this type of unit allows treatment of areas such as hollow wall voids by misting can be accomplished in a short time and more thoroughly without over-wetting. Calibration of the tip will allow you to know how much liquid you are applying in the void, so you can avoid damage due to over-application. The use of a high pressure pump with an atomizing tip will allow the delivery of tiny droplets rather than a course spray. This can be used for treating wall voids or inaccessible areas. For high pressure misting applications into wall voids, use machines reviewed by Nisus and specifically designed for high pressure misting into wall voids.

Foaming: Choose foaming when excess moisture may be a problem or in difficult-to-reach areas such as around insulation in wall voids and door and window facings.

a. *Foaming agent:* Nisus recommends ProFoam® Platinum for Bora-Care foaming applications. ProFoam Platinum is specially formulated to be used with borates and other termiticides for the best foam solution.

b *Mixing foam:* Mix foam product per label directions to produce the ratio of foam to Bora-Care solution required. Typically, 3-8 ounces of foaming agent per gallon of solution is needed. This will produce a dry foam with the desired expansion ratio of approximately 20:1 (20 gal. foam per 1 gal. aqueous solution). This should result in a Bora-Care foam with a consistency that adheres to wood surfaces and minimizes run-off.

Tools:

Electric or Gas Spray Unit: A primary tool in pre- or post-construction treatment when the broadcast application of a liquid is required. Topical sprays of Bora-Care solution should be applied evenly to wood using a medium to coarse spray at low pressures (e.g., 30-40 psi). Low pressure application will reduce drips, off-target overspray and splash-back, and will result in proper amounts of active ingredient on surfaces. The uses may vary with the addition of specialized application tools such as:

a. *Fan Spray Wand:* To coat the surface of exposed wood members.

b. *Pin Stream:* To treat cracks behind wood members.

Compressed Air Sprayer: Used in situations where you are either doing a small re-treatment of an area or spraying into areas where it is not possible to reach with other equipment. It is not generally designed to do the entire job because of a smaller capacity for treatment solution. The compressed air sprayer can be used with a variety of attachments for various jobs, including fan spray and needle injection.

Foam machines: Since every foam machine produces different foams, refer to the equipment manufacturer's manual for specific instructions. To foam into wall voids, use a foam machine designed for wall foaming applications and approved by Nisus Corporation.

a. Tips needed:

- *Attic Foam Gun:* To treat between insulation and ceiling joists.
- *Needle:* To inject foam into infested wood.
- *J-Tip:* To inject foam into areas such as wall voids.

Calibration of Foaming Equipment and Foaming Material: Apply a known volume of foam solution from the foaming equipment into a pre-measured container such as one from the paint department of a hardware store. Allow foam to dissipate into a liquid. A de-foaming agent can also be used to speed up this

process. The volume measurement of foam compared to the volume measurement of the resulting liquid is the foam ratio. Use a moisture meter to determine the flow of foam into void.

Example: If you measure a gallon of foam (128 oz.), and the foam dissipates to 6.4 oz., the ratio is 128/6.4 or 20:1.

NOTE: De-foaming agents can be purchased from your distributor. When placed in a small spray bottle and sprayed lightly onto the foam, the agent works well to reduce the foam back to a liquid.

Pressure Injection: Injection tips should be brass or other metal and fit snugly into the drilled hole to prevent dripping or spray back. Use a short injection tip (approximately 1 inch). This will allow the solution to flow into the drilled wood.

a. *Heavily Infested Wood:* Bora-Care solution or foam should be injected into infested wood. Drill and inject until the liquid or foam runs out of openings or damaged areas. This procedure is not an alternative to spraying; it can supplement spraying for active galleries or when structural wood is greater than 4 inches thick. It is possible post-treatment swarming could occur for a while after application if only a topical treatment is used. Injection treatments can reduce post-treatment swarming callbacks.

b. *Injection into active galleries:*

- *Liquid Injection:* Locate and inject up to 1 ounce of Bora-Care (1:1 solution) per board foot into active galleries.
- *Foam Injection:* Locate and inject up to 20 ounces foam (2:1 solution of 2 parts water + 1 part Bora-Care) per board foot into active galleries.

c. *Unfinished, Sealed or Painted Wood (including the wood adjacent to the infested areas):* The application tip should be designed to avoid splash back.

d. *Application Technique:* Injection holes (typically 7/64" or 1/8" in diameter) should be drilled in the area of suspected or known infestation.

Drill the holes through the widest dimension of the wood that is available. Holes should extend approximately 3/4 of the way into the beam. If the widest surface is not accessible, holes can be drilled approximately 8-10 inches apart into a narrower surface.

Press and hold the injection tip firmly into each hole and inject solution until runoff is observed from other holes, galleries, kick-out holes, etc. You may get splash back if the wood is solid. Release the trigger, wait briefly and withdraw the injection tip. Excess solution can be absorbed with paper towels and disposed of in ordinary trash.

The holes should be in a diamond pattern and be spaced approximately 4-6 inches across the grain and 12-16 inches along the grain (*Figure 1*). When possible, the wood should be treated one diamond length pattern beyond the immediate area of visible infestation.

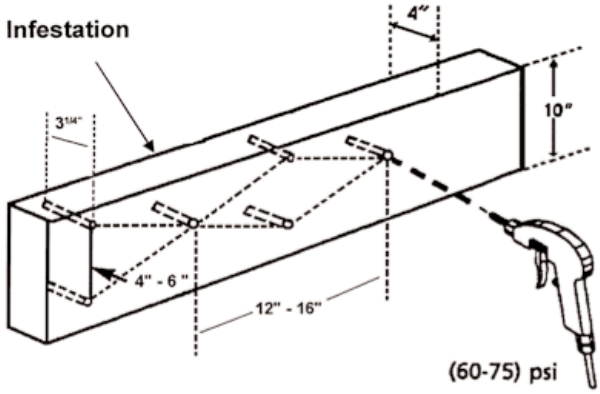


Figure 1: *Drill and pressure injection of a 4" x 10" structural beam with Bora-Care solution.*

SPECIFICATIONS FOR SPECIFIC STRUCTURAL AREAS

Keep in mind that every structure is unique and that you will need to use your best judgment in each case, with safety as the primary concern. Untreated areas are unprotected areas and will not prevent termite tubing or damage from wood destroying organisms.

Bora-Care should only be topically applied to wood, plywood, particleboard and other cellulosic materials where an intact water repellent barrier such as paint, stain or a sealer is not present. Dirt, debris and any existing water repellent finish must be removed to permit absorption of Bora-Care into the wood.

NOTE: An existing construction preventative/remedial subterranean termite treatment with a 1:1 Bora-Care solution requires the creation of a continuous horizontal and vertical barrier by treating all potential entry areas. This includes the structural wood of both internal and external walls (sill plates, wall studs and exterior wood sheathing), foundations (concrete surfaces), bath traps, pipe protrusions and other areas. Interior walls are also treated to prevent termite entry due to cracks that may occur in the slab. This may be accomplished using the techniques described in this technical bulletin and also in the *New Construction Technical Bulletin*.

Attic Applications for Subterranean Termites

If an infestation is found in an attic, first determine if the infestation may be secondary to water or moisture damage created by structural defects. If so, first have the defects corrected, then treat with Bora-Care. Spray Bora-Care solution on all accessible wood in the area

of the infestation: rafters, trusses, top-plates, ceiling joists, plywood, particleboard, etc. Accessible areas with known infestations should be drilled and injected with liquid or foam solution to speed eradication and reduce callbacks. Foam may be used in difficult-to-reach areas such as around insulation.

If the infestation can be traced to a ground contact infestation, treat the attic area and also the areas in contact with the foundation as listed below. If an infestation is present beneath or partially hidden by insulation, remove the insulation to directly treat the area.

Interior Applications

Bath Traps and Pipe Penetrations (Slab Foundations Only): Bath traps, pipe penetrations and the slab areas around them must be treated both horizontally and vertically to protect from termite entry into the structure.

Treat the interior of all bath traps with 8-16 ounces of Bora-Care solution per square foot of the bath trap area. Apply a continuous 12" horizontal band of a 1:1 Bora-Care solution on the slab surrounding the bath traps to include any accessible bare wood (such as horizontal sill plates). All studs must be treated vertically to a height of 24 inches. Installing a bath trap access panelwil help with future inspections.

Pipe and plumbing penetrations must be treated with a 1:1 Bora-Care solution to a height of two feet. Extend treatment at least 6 inches out horizontally onto the slab surface surrounding the penetrations.

Available Bare Wood Stud Walls and Sill Plates: Treat all exposed sides of the studs (3-4 sides) with one coat of Bora-Care solution 24 inches up from the sill plate. If access to the wood is limited to one or two sides (some sill plates or married studs), then spray the exposed sides twice, waiting 20 minutes between applications.

To determine the amount of Bora-Care needed to treat sill plates and studs, measure the linear footage of interior and exterior stud walls. One gallon of Bora-Care solution will cover 200 linear feet of stud walls with a 24-inch vertical application up from the slab (excluding sheathing).

Available Bare Exterior Sheathing: Both sides (interior and exterior) of the bottom 24 inches of the exterior sheathing (up from the foundation) must be treated with one coat of a continuous vertical barrier of a 1:1 Bora-Care solution. If only one side is accessible then two applications on the available surface are required (be sure to document such applications).

One gallon of Bora-Care solution will cover 400 square feet of cellulosic sheathing. This includes one vertical application of solution on each side or two applications on one side.

Enclosed stud walls: When sheetrock (drywall), paneling or other finished building material prevents access to an area, Bora-Care should be applied with a high pressure misting machine or a foam application. The foam will run along each stud or the high pressure mist will hit each stud.

Preparations prior to treatment:

1. Have a wet/dry vacuum plugged into a remote power source and ready to use. Electrical power must be turned off and remain off in the area of application for a period of time to allow the treatment to dry when treatments are made near electrical outlets.
2. For foaming applications, use a non-intrusive moisture meter to check the moisture in the wall before and after treatment. Move the meter from the floor vertically along the wall to get a baseline reading. A normal reading should be from 9% to 15%. A sticky note can be used to record the reading on the wall. Continue on all walls in the areas to be treated.
3. Locate studs in the area to be treated using a stud finder.
4. Divide and direct foam or mist in a way that best allows the solution to cover sill plate surfaces and wood stud surfaces.
5. Repeat the moisture check 30 to 45 minutes after treating the void. Move the meter from the floor vertically along the wall to determine where the foam is moving and if it is covering the sill and stud surfaces. If there is a blockage in the wall, you will get a high moisture reading at the blockage.
6. Patch the holes with appropriate filler compound, and paint if required.

   b. *Enclosed Stud Walls (Uninsulated):* Normally the interior walls will not contain insulation.

To treat the bottom portion of the void only, drill a single hole between studs at the bottom of the wall (immediately above the kick plate/skirting board). A timed and calibrated dry foam or mist injection is sufficient to treat the sill plate and bottom 24 inches of stud areas (see *Figure 2*).

NOTE: Do not over-treat the void. There is no need to completely fill the void with foam or liquid. You only need to coat the wood and cellulosic materials in contact with a concrete foundation. YOU ARE PLACING A LIQUID IN A VOID AREA. THE POSSIBILITY OF WATER DAMAGE MUST BE KEPT IN MIND AT ALL TIMES.

Misting Into Uninsulated Wall Void Areas:

a. *24-inch band (preventative):* Apply 1 ounce of a 2:1 Bora-Care solution into each uninsulated wall void to

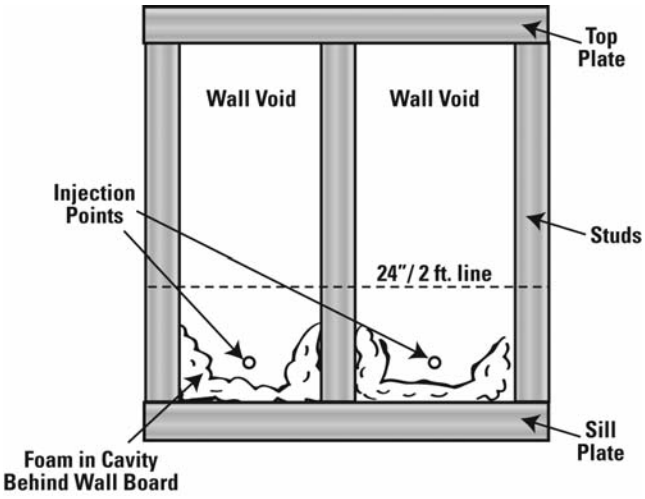


Figure 2: *Injection points to treat bottom of void only. Drill in center along each stud.*

be treated. This is approximately 7.5 ounces of solution for every 10 feet of uninsulated wall void area. Apply 2 ounces of 2:1 Bora-Care misted solution into each void area if one side of the wall is covered with cellulosic sheathing (such as OSB or plywood). Direct mist toward wood surface.

b. *Entire void (preventative and remedial):* If sheetrock is attached to concrete foundation walls by furring strips with approximately 1 inch of clearance between sheetrock and concrete, mist with approximately 2 ounces of 2:1 Bora-Care solution every 16-20 inches by treating the top of the sheet rock to let the solution flow down to cover concrete wall, furring strips and the back side of the sheetrock and by treating up from the bottom directing the solution up to cover concrete wall, furring strips and the back of the sheet rock.

Foaming Into Uninsulated Wall Voids:

a. *24-inch band (preventative):* Use a 2:1 Bora-Care solution mixed with foaming agent to create a dry foam (20:1 or higher). Apply 20-40 ounces of foam in each wall void area to be treated. This results in about 150-300 ounces of foam needed per 10 lineal feet of wall void area.

b. *Entire void (preventative and remedial), e.g. in finished basement walls:* Treat by misting with a 2:1 solution of Bora-Care at the rate of 3.5 ounces per void. Treating from the top of the void and up from the bottom of the void, direct mist to cover all wood and concrete wall foundation areas. If sheetrock is attached to concrete foundation walls by furring strips with approximately 1 inch of clearance between sheetrock and concrete, foam 15-20 ounces of a 2:1 Bora-Care solution in a 20:1 ratio foam every 16-20 inches by treating the top of the sheet rock to let the foam flow down to cover concrete wall, furring strips and the back side of the sheetrock and by treating up from the bottom, directing the foam up to cover concrete wall, furring strips and the back of the sheet rock.

Special Applications

There are some special application situations where other treatments may be used. When multiple boards are bonded together to form a wide beam or girder, they may be drilled and injected with Jecta® (a concentrated borate gel designed to be injected into thick or sealed wood components) at the point where they come into contact with the foundation.

Walls (Insulated)

Because exterior walls normally contain insulation, treating them effectively can be more difficult.

Drill two holes to either side of the stud. If insulation is tightly packed in the void, it can usually be moved slightly and temporarily using the foaming or misting tip prior to injecting.

For preventative treatment, apply the mist or foam in a direction that best coats sill plate area and wall wood studs at least 24 inches up from concrete foundation. If possible, direct foam or mist around both sides of insulation.

In an area of infestation, you can treat with mist or foam on each side of the stud, staying close to allow the solution to move along the stud instead of soaking into the insulation.

The use of a moisture meter against the drywall can tell you where the foam is moving and will help you to decide if more or less treatment is needed in a particular void.

Misting Into Insulated Wall Void Areas: Apply 2 ounces of a 2:1 Bora-Care misted solution into each insulated wall void to be treated. This application relates to 15 ounces of solution for every 10 feet of insulated wall void area. Do not over-apply mist liquid.

Apply 3 ounces of a 2:1 Bora-Care misted solution into each wall void if one side of the wall void has cellulosic sheathing (such as OSB or plywood). Pull insulation away from sheathing with spray tip or tool before application.

Foaming into Insulated Wall Void Areas: Mix a 2:1 Bora-Care solution with foaming agent for foaming treatments. Use a 20:1 or higher foam ratio.

a. *24-inch band (preventative):* apply 40 ounces of foam into each wall void to be treated. This relates to 300 ounces of foam product per 10 linear feet of void area. Apply 60 ounces of foam to each void area if one side of the wall void has cellulosic sheathing such as OSB or plywood.

b. *Entire void (preventative and remedial), e.g., into basement exterior wall areas:* Foam at the rate of 40

ounces of foam with a 2:1 Bora-Care solution in a 20:1 ratio or higher foam. Direct foam down from the top of the void and up from the bottom of the void to cover the surface areas of the wall studs, sills and concrete wall foundations.

Basement or Crawl Space Structure

Spray a 1:1 Bora-Care solution on all bare wood resting in contact with foundation walls. Apply at the rate of 1 gallon of solution per 100 linear feet of foundation sill plates, floor joists, header and subfloor listed above in a 24" band for preventative treatment. Apply 1 gallon of solution per 200 linear feet of the above areas for remedial treatment.

A second application is required when only one or two sides of the wood member is exposed (box headers and sills). Drill and inject active infestations with a Bora-Care 1:1 solution.

The following are based on application rates above.

Perimeter Elements: This is composed of the foundation sill plate, header or band joist, floor joints and subfloor. If the area is inaccessible, then an access point must be created or the area cannot be treated.

a. Foundation Sill Plate: Treat horizontally with two coats (assuming only one or two sides of the sill plate are accessible) of 1:1 Bora-Care solution on the foundation sill plate, waiting at least 20 minutes between coats.

b. Header or Band Joist: Treat all accessible sides with one coat of same solution. If only one or two sides are accessible, treat with two coats of solution.

c. Floor Joists: Treat all accessible sides (assuming three sides are exposed) with one coat of Bora-Care solution.

d. Subfloor: Apply two coats of solution only on the underside of the wooden subfloor.

Finished Basement Areas: Treat all interior wood stud walls, pipe penetrations and bath traps as described above.

To prevent subterranean termite tubing on unfinished wall areas:

a. *Concrete-Masonry Foundation Support Piers:* Treat all concrete/masonry support piers at least 24 inches vertically from the ground. Measure the linear footage of concrete-masonry foundation support piers and multiply by two.

b. *Crawl Space/Basement Concrete-Masonry Foundations:* Measure in front of all concrete-masonry foundation walls. Treat all interior concrete-masonry wall surfaces up at least 24 inches from the basement slab or crawl space soil. Horizontally extend the treatment 2-8 inches out onto slab surfaces. Apply 1 gallon of a Bora-Care 1:1 solution per 400 square feet of treated surface area.

EXTERIOR APPLICATIONS

Bora-Care can be applied to bare siding, trim or logs.

Applications can be made by spray or pressure injection techniques. Painted or sealed wood can be treated by pressure injection, or the wood can be stripped prior to a spray application. See the *Dimensional Lumber* or *Log Home Technical Bulletins* for more information on application rates for log homes, decks, siding and more.

Protect any surrounding plants and ornamentals from accidental contact with the solution.

Infested Window and Door Frames

Treat window and door frames by drilling and injecting foam or liquid in the surrounding voids or by drilling and injecting infested wood. Use a moisture meter to determine how well the foam is moving in the voids. Normally, you will only need one hole on each side of the window and one on the bottom.

NOTE: Window and door framing can vary. It is difficult to determine wood framing after the wallboard or sheetrock is installed. Take care not to apply excessive liquid product solution into these areas.

Misting or injecting window and door framing: Apply by mist or injection up to 1 ounce of solution per linear foot of window framing or door framing in areas of application. A 2:1 Bora-Care solution mist application or a 1:1 Bora-Care solution liquid injection is used in confirmed or suspected areas of active infestation.

Foaming into window and door framing: Direct up to 10 ounces of foam per linear foot into wall areas around window and door framing. Use a 2:1 Bora-Care solution mixed with a foam concentrate to create a 20:1 or higher foam ratio for confirmed or suspected activity.

Exterior Overhang Area or Eaves (Soffit Area)

If subterranean termites have penetrated an exterior overhang, soffit or eave area due to direct contact to the ground or excessive moisture, spray the exposed, unfinished wood with Bora-Care 1:1 solution and drill and mist void areas. Active galleries can be injected or foamed.

Misting into eaves and soffit areas: Apply up to 12 ounces of a 2:1 Bora-Care solution per 10 linear feet of soffit or eaves. Application may be made through the soffit vents or by drilling into the soffit/eaves void area. Apply only enough Bora-Care solution to coat the surfaces of the wood, being careful not to over-treat the area.

Decks & Gazebos

Bora-Care can be used to treat wood decks and other exterior structures. Prepare the wood by removing any

dirt, debris or sealants that will interfere with the application and absorption of Bora-Care. After the deck is dry to the touch with no standing puddles, a Bora-Care 1:1 solution can be applied to the wood.

Following treatment, the deck can be sealed to prolong performance.

REOCCURRENCE OR RETREATMENTS (IF REQUIRED)

When responding to a reoccurrence of subterranean termites, go through the following steps:

Inspection

Do a thorough inspection of the property (not just one small area). Look at the graph and any other documentation that may help you to determine where treatment may be needed. Try to recreate the service you did and determine if it was the proper treatment. Ask yourself: What has been done? What hasn't been done? Did I drill and inject? Are there conditions conducive to infestation? Problems and conducive conditions which may have led to the infestation, or that may do so in the future, should also be corrected. If necessary, a borate indicator test kit (available from your distributor) can be used to validate treatment.

Identification

Identify where the infestation is to determine whether it is the area that was originally treated or if it is in an untreated area.

Problem Solving

Determine what needs to be done to take care of the problem. After the treatment, inspections should be performed on a regular basis and additional preventative sprays or injection treatments of Bora-Care can be made, if desired.

Communication

Let the customer know what you found, what you did about it and what they should expect from your service. Answer their questions.

DOCUMENTATION

It is important to graph the structure and fully document the Bora-Care application, including where dye or colorant was and was not used, areas that were not accessible (such as only one side of sheathing) and so forth. This documentation will be a very important tool for future inspections.

CUSTOMER COMMUNICATION

It is also important to talk to the builder, contractor or homeowner to explain the treatment and educate them on conducive conditions that could cause a subterranean termite infestation and the need for the PMP to do a thorough onsite annual inspection to determine if any new conducive conditions have been created. A product is only as good as the application, and because you are a Pest Management Professional, we hope you will utilize this information to protect you, your company and—most importantly—the homeowner from potential subterranean termite infestation and damage.

CARE OF SPRAY EQUIPMENT

Normal care and maintenance of spray equipment is sufficient. Bora-Care solutions are compatible with stainless steel, brass and all plastic components of spray equipment. Bora-Care solutions should be mixed as needed and drained from equipment daily. After use, equipment should be rinsed with clean water (warm if possible) to flush any remaining Bora-Care from the sprayer. The rinsate may be saved in appropriately labeled service containers for future preparations of Bora-Care solutions (in place of fresh water). It is always best to try to use up all product onsite.

Spray/Injection Tips: Under some conditions, spray tips may clog due to evaporation. Spray tips can be unclogged by flushing or soaking in warm water.

CLEAN-UP ON NON-TARGET AREAS

Occasionally, Bora-Care solutions may drip or run onto glass surfaces such as windows and doors or other non-target areas. After drying, a sticky residue may appear. This can be removed easily with warm water, but is easier to remove before it dries.

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