SCOPE OF SERVICE
FOR FOAMING AND MISTING

The use of foam can be an excellent addition to your service protocol. Foam can be a carrier of control products or other materials into areas that may be inaccessible by other means of application. This *Scope of Service* is intended to present methods of foaming for the control of general pests, wood destroying pests and general cleaning.

In order to apply foam, you must use an apparatus designed to administer the foam to the target area. There are a number of machines on the market that can make foam in conjunction with a control agent, and most of these machines are specifically designed only to apply foam materials into a limited number of areas in a structure. Nisus Corporation recommends the TrueTech™ line of foam units because these machines are the most versatile on the market and can be used in a number of pest management applications and structural situations. These units can also be used for a liquid spray application. Some units can apply a misting application into areas such as wall voids for the control and prevention of subterranean and drywood termites.

It is also important to use the best foaming agent available in conjunction with the foaming machine to apply the control agents. Generally, foaming agents can be repellant to many wood destroying and general pest species and may also fall under additional restrictions such as the Prop 65 Rules in California. This is extremely important when foaming with non-repellant soil termiticides and borate wood treatments. An applicator does not want a foaming agent to repel pests from an area when he is using a non-repellant control agent. Nisus Corporation recommends ProFoam Platinum as the foaming agent of choice. ProFoam Platinum has excellent foaming properties, is research-proven not to be repellant to insect species and has also been tested to show it does not fall under additional restrictions (including California's Prop 65 Rules). This foaming agent is also designed to be used with the TrueTech line of foaming units.

ProFoam Platinum is usually applied at the rate of 2-8 ounces of product to one gallon of mixed material. This rate may vary depending on the material being used and the ratio of foam desired. Generally, a ratio of 20:1 or 25:1 (20/25 parts foam to one part liquid) is considered dry foam and can be used when applying foam materials such as borates into wall voids and

drains. A ratio of 10:1 or 15:1 is considered wet foam and works well when applying soil termiticides under slab areas or other areas where a more liquid flow is needed. A method of determining a foam ratio is listed below.

Calibration of Foaming Equipment and Foaming Material: Apply the foam solution from the foam application equipment into a pre-measured container. Measuring containers can be found in the paint department of hardware stores. Allow foam to dissipate into a liquid. The volume measurement of foam compared to the volume measurement of the resulting liquid is the foam ratio.

> *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: A de-foaming agent can help speed up this process. De-foaming agents can be purchased from your distributor. This agent placed in a small spritz bottle works well to reduce the foam.

To calculate amounts that will go into inaccessible areas, it is best to apply foam into a measured container and time the application. You will then know how much foam you have applied over a given amount of time.

> *Example:* If you apply foam into a measured quart container and it takes 10 seconds to fill, then you will know that for every 10 seconds of a foam application into a wall void or drain you have applied a quart of foam solution.

<u>General Pest Management</u>

Foaming is a very effective method to use to apply pest management products and other materials into accessible area such a cracks, crevices, voids and drains and to other infested areas such as dumpsters. Nibor-D is the product of choice for general pests that that might inhabit these areas. These insect pests could be German cockroaches, ants, houseflies, drain flies, fruit flies and phorid flies, to name just a few. The foam will place the Nibor-D into the affected area and it will be picked up and consumed by the insect pest. Nibor-D also taints any food matter it comes into contact with and makes that food source toxic to the pest. Please refer to the label for specific instructions.

Foaming Drains:

There are a number of pests that might inhabit drains. These areas offer a very nice harborage area in which they can hide, feed or develop. The most common pests in these areas are drain flies, fruit flies and cockroaches.

<u>To make a solution of Nibor-D for drain treatments and foaming</u>, mix 5 Nibor-D scoops (8 ounces by weight or 2.5 cups by volume) of Nibor-D powder into one gallon of water to make a 5% solution, then add 1-3 ounces of ProFoam Platinum to the solution to make the desired foaming solution. Less ProFoam Platinum creates a wet foam, more makes a dryer foam.

Using a TrueTech foamer (or other foaming machine), direct the application tip into the drain and begin foaming. The purpose of this application is to apply the Nibor-D solution so it will coat the surface areas of the drain and leave a residual that will kill fly larvae and other insects that may be feeding on the scum layer or that use the area for harborage. A wet foam will move down the drain faster than a dry foam. If using a dry foam, use a drain plate (a plate designed to fit over the drain opening). Do not

apply more than one quart of finished liquid solution to each drain in the foam mixture. The plate will help direct the foam deeper into the drain line. (Note: If foam begins coming out around the edges of the drain plate, this indicates the drain may be totally clogged and requires cleaning.) Nibor-D is also labeled for mixing with Nisus DSV and IGRs (Insect Growth Regulators) Nisus DSV provides a quick kill of drain flies and DSV is a small fly ovicidal treatment, meaning it also kills larvae and eggs.

Drain treatments with Nibor-D used on a regular basis will control and prevent insect populations in the area.

Drain Cleaning:
If drains are dirty or clogged, they may require cleaning. Using a cleaning product like Bac-Azap that includes non-pathogenic microorganisms to consume the organic material in the drain is recommended. Bac-Azap can be foamed into the drain using a TrueTech foamer (or other foaming machine) to clean the area. Cleaning brushes or other mechanical means may also be needed to clean or unclog the drains. **(<u>Important Note:</u> Bac-Azap and other similar products are "Not" registered by the US EPA for any pest management control and no pesticidal claims by the application company should be made.)**

<u>Pesticide Foaming Applications using Nibor-D</u>: Nibor-D can be used in a 15% mixed solution as a foam for application into cracks, crevices and voids for the control of cockroaches, small flies (including fruit flies), cluster flies, ants and other listed insect pests.

To make a 15% liquid solution, apply 15 Nibor-D scoops (1.5 pounds (by weight or by weight or 7.5 cups by volume) of Nibor-D to one gallon of water and mix well. To create a foam solution, add 1-3 ounces of ProFoam Platinum to the solution depending on the foaming ratio you require for the application. More ProFoam Platinum will provide a dryer foam.

Apply the foam solution with a TrueTech Foamer (or other foamer) into cracks, crevices and voids in walls on the interior or exterior of the structure where insects may hide or breed. The foam will help the Nibor-D coat surfaces to leave a residual that will kill pest and give long-term protection to that area. This application is also very effective in treating cracks and crevices in walls and baseboard areas behind kitchen work areas. Misting wall voids with a TrueTech foamer/mister unit also offers an effective treatment to apply Nibor-D to hidden harborages.

<u>Foaming Nibor-D into waste dumpsters and other garbage containers:</u> Dumpsters and other garbage containers are breeding areas for flies and cockroaches. Foaming Nibor-D onto the floors and walls of these containers allows the product to absorb into the organic coating that provides food for these insects. The Nibor-D will taint this material and make this food source toxic and prevents these insects proliferating. Apply a liquid or foam application at the rate of one gallon per 200-250 square feet of surface area.

<u>Wood Destroying Organism Management</u>
For existing structural applications for the control of subterranean or drywood termites, Bora-Care foam is a good application to consider where excess liquid may be a problem in the application area or in difficult-to-reach

areas such as around insulation in attics or in wall voids. (Again, ProFoam Platinum is the foaming product of choice.)

For prevention, prepare a 2:1 (two parts water to one part Bora-Care) dilution for subterranean termites or a 5:1 (five parts water to one part Bora-Care) dilution for drywood termites and add the foaming agent. Typically, 3-8 ounces of a foaming agent per gallon of solution will produce dry foam with the desired expansion ratios of approximately 20:1 (approx. 20 gallons of foam per 1 gallon of aqueous solution). Bora-Care foam should be of a consistency that adheres to wood surfaces so that run-off is minimized. If using foam machines not listed, be aware that each foam machine can produce different foams. Refer to the equipment manufacturer's manual, and if using a foaming agent not listed here, please refer to the label for specific instructions. (See calibration of foam)

To foam into wall voids, use a foam machine designed for wall foaming applications such as the TrueTech line of foamers. Mix foam product per label directions to produce a dry ratio of foam to Bora-Care solution required. A moisture meter can be used to determine the flow of foam into void.

Pressure Injection

a. **Heavily Infested Wood:** Bora-Care solution or foam should be injected into heavily infested wood. Drill into the infested wood and inject until the liquid or foam runs out of openings, damaged areas or kick-out holes. This procedure is not an alternative to spraying; it should be used in addition to spraying when structural timbers are greater than 4 inches thick and/or for active termite galleries. Injection is especially important to reduce callbacks due to post treatment swarming. Post-treatment swarming could occur for a while after application if only a topical treatment is used.

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 termite galleries.

Foam Injection: Locate and inject up to 20 ounces foam (use a 2:1 solution—2 parts water to 1 part Bora-Care for all active termite species) per board foot into active termite galleries. Mix foam with solution at no less than a 20:1 ratio foam (20 parts foam to 1 part liquid solution).

NOTE: Amounts of liquid and foam may vary according to size and number of galleries per board foot.

Specifications for Structural Areas

Interior Applications

a. ***How to apply foam and high-pressure mists in stud walls.***
Have a wet/dry vac plugged into a remote power source and ready to use. (**Electrical power must be turned off and remain off for a period of time to allow the treatment to dry when treatments are made near electrical outlets.)**

Use a non-intrusive moisture meter (no probes, please) to check the moisture in the wall that you will be treating. Start at the ceiling, moving down to the floor. A normal reading should be from 9% to 15%. A Post-It® note may be used to record the reading on the wall. Continue on all

walls in the area to be treated.

For drywood termites, locate studs with a stud finder in the area to be treated. Drill a 1/4" hole 6 to 8 inches below the ceiling between each stud, or—better still—drill two holes to either side of the stud. A timed and calibrated foam or mist application into these areas is sufficient if the foam or mist is directed to cover the wood surface areas. The foam will run down each stud or the high-pressure mist will hit each stud. If insulation is tightly packed in the void, it can normally be moved slightly and temporarily using the foaming or misting tip prior to shooting. A single hole drilled between studs at the bottom of the wall (immediately above kick plate/skirting board) and a timed and calibrated foam or mist injection is sufficient to treat the sill plate and bottom of stud areas. The bottom treatment is only if treating for subterranean termites.

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. **YOU ARE PLACING A LIQUID IN A VOID AREA. THE POSSIBILITY OF WATER DAMAGE MUST BE KEPT IN MIND AT ALL TIMES.**

Repeat the moisture check 30 to 45 minutes after treating the void. If there is a blockage in the wall, you will get a high moisture reading at the blockage. You should then treat about 6 inches below the blockage for complete treatment of void area. Patch the holes with appropriate filler compound, and paint if required.

b. ***Walls (Uninsulated)***

Normally the interior walls will not contain insulation. The hollow walls may be treated with foam or high pressure misting by making a small hole at the bottom of the wall near the baseboard and/or making another drill hole near the top of the wall. The objective is to obtain uniform coverage of the studs, the top and bottom plates and the back of the wallboard inside the void area. The bottom treatment is only if treating for subterranean termites.

Misting Into Uninsulated Wall Void Areas:

Apply 3.5 ounces of a 5:1 Bora-Care solution (5:1 drywood preventative) or a 2:1 Bora-Care solution (remedial for drywood and subterranean termites) into each uninsulated wall void listed in your structural treatment protocol. This application relates to 26.25 ounces of solution for every 10 feet of uninsulated wall void area, or approximately 2 gallons of solution for every 100 feet linear feet of uninsulated wall void area. Apply the mist in a direction that best coats all wall wood stud and sill areas. Application should be done to lower and higher areas of void. Halve these application rates if only treating at the bottom areas for subterranean termites.

Foaming Into Uninsulated Wall Voids:

Use a 5:1 Bora-Care solution for preventative drywood termite treatments or a 2:1 Bora-Care solution for remedial treatments and mix with foaming agent to create a dry foam (20:1 or higher – 20 parts foam to 1 part Bora-Care solution).

Apply 40 ounces of foam in each wall void area to be treated. Divide foam amounts between the upper and lower corners of void area in a way that best allows the foam to cover wood stud and sill plate surfaces. This relates to 300 ounces of foam per 10 lineal feet of wall void area, or approximately 23 gallons of foam per 100 lineal feet of wall void area. Halve these application rates if only treating the bottom areas for subterranean termites.

c. ***Walls (Insulated)***

Because exterior walls normally contain insulation, treating them effectively can be more difficult. Foam can be applied and will work its way around the insulation. In an area of infestation, you can treat with foam on each side of the stud, staying close to allow the foam to move down 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 6 ounces of a 5:1 Bora-Care solution (drywood preventative) or a 2:1 Bora-Care solution (preventive for subterranean termites and remedial for all termites) into each insulated wall void to be treated. This application relates to 45 ounces of solution for every 10 feet of insulated wall void area and 3.5 gallons of solution for every 100 feet of insulated wall void area. Apply the mist in a direction that best coats all wall wood stud and sill areas. If possible, direct mist around both sides of insulation. Application should be done to lower and higher areas of voids. Halve these rates if only treating bottom areas for subterranean termites.

Foaming Into Insulated Wall Void Areas:
Use a 5:1 Bora-Care solution for preventative treatments for drywood termites or a 2:1 Bora-Care solution (for preventive treatments for subterranean or remedial treatments for all termites) to mix with foaming agent.

Use a 20:1 (20 parts foam to 1 part Bora-Care solution) or higher foam ratio to apply 80 ounces of foam into each wall void area to be treated. Divide foam amounts between upper and lower corners of void areas in a way that best allows the foam to cover wood stud and sill plate areas. If possible, direct foam around both sides of the insulation. This relates to 600 ounces of foam product per 10 linear feet of void area. Halve these rates if only treating bottom areas for subterranean termites.

d. ***Foaming with a liquid soil termiticide:***
Mix foaming agent as directed by termiticide label and apply to sub slab and other listed areas as directed by termiticide label.

Nisus® CORPORATION
Green Pest Control Solutions
100 Nisus Drive • Rockford, TN 37853 USA • 800-264-0870