

<p align="center">DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT Housing - Federal Housing Commissioner</p> <p>TO: DIRECTORS, SINGLE FAMILY HOCs DIRECTORS, MULTIFAMILY HUBs</p>	<p>Series and Series Number: MATERIALS RELEASE NO: 1199f (Supersedes issue dated May 17, 2004)</p>
	<p>ISSUE DATE May 23, 2007</p>
	<p>REVIEW DATE May 23, 2010</p>
<p>SUBJECT: 1. Product Thermo-Flo Basement Waterproofing System</p> <p>2. Name and address of Manufacturer B-Dry System, Inc. 1341 Copley Road Akron, OH 44320</p>	

Data on the nonstandard product described herein have been reviewed by the Department of Housing and Urban Development (HUD) and determination has been made that it is considered suitable from a technical standpoint for the use indicated herein. This Release does not purport to establish a comparative quality or value rating for this product as compared to standard products normally used in the same manner.

This Materials Release cannot be used as an indication of endorsement or approval by HUD of the described product, and any statement or representation, however made, indicating such approval or endorsement by HUD is unauthorized. See Code 18, U.S.C. 709.

Any reproduction of this Release must be in its entirety.

USE: Basement waterproofing.

DESCRIPTION:

The Thermo-Flo basement waterproofing system prevents basement leakage caused by either a high water-table, or by infiltration of ground water. The Thermo-Flo system uses a specially designed rectangular drainage pipe that is placed along the inside perimeter of the footing, and a rigid plastic panel that is attached to the inside face of the basement wall. The panel channels moisture or water below the floor level and into the drainage pipe.

MATERIALS:

Thermo-Flo Drainage Pipe

The rectangular pipe is made of two pieces of extruded PVC. The bottom trough is 3" x 6" x 0.100" thick and has a snap-on top. The sides of the trough have 1" diameter holes spaced 3" o.c. on both sides. The snap-on top is 10' long x 0.100" thick with sufficient width to reach the 1" x 1" x 0.100 PVC angle attached to the wall.

Rigid Sealer

The Rigid Sealer is a low density polyethylene sealer that is 0.080" thick.

The Rigid Sealer shall conform to the following:

ASTM E 84

Flame Spread	130 max.
Smoke Developed	240 max.

INSTALLATION:

Installation and materials shall be in accordance with the B-Dry System, Inc. installation instructions and the following:

Drill 3/4" diameter holes into each block core, and into each mortar joint between the blocks at the level where the bottom course of concrete blocks bears on the footing.

Cover the basement walls with 6 mil polyethylene film. Overlap the edges a minimum of 6". Apply the B-Dry Rigid Sealer panels to the walls. The bottom of the Rigid Sealer must extend below the floor level to just above the 3/4" diameter weep holes. Attach the panels to the walls with 1/4" nylon expanding rivets spaced 16" o.c. horizontally and 24" o.c. vertically. Rigid Sealer panels are connected with PVC connector moldings at all joints. Provide PVC connector moldings at inside and outside corners. Rigid Sealer panels shall be applied at least to the height of the outside grade.

Attach a 1" x 1" x 0.100" PVC angle to the wall with 1/4" nylon rivets spaced 12" o.c. The angle must be above the weep holes, but below the level of the floor slab.

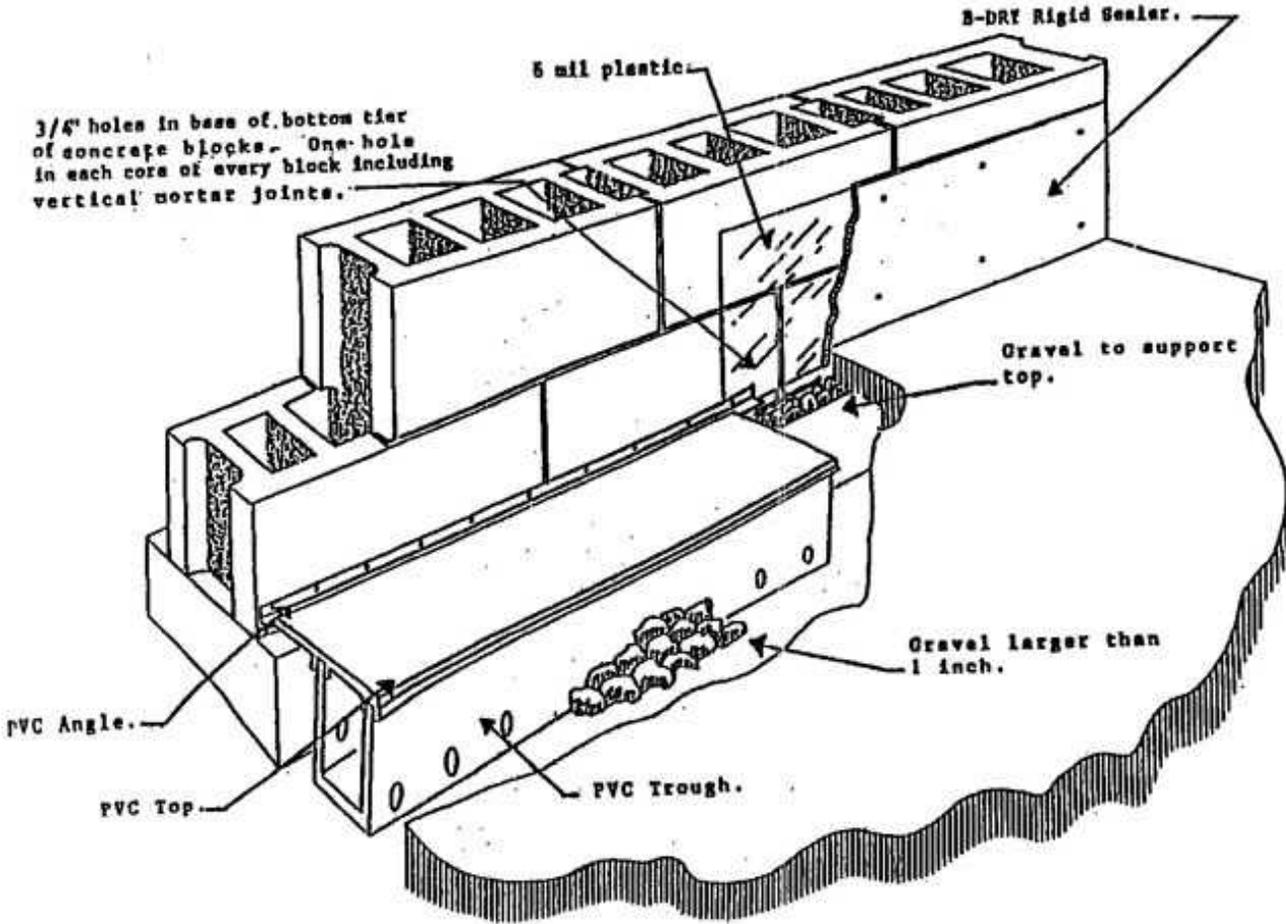
Place gravel along the top of the footing to support the lip of the snap-on top.

Lay the Thermo-Flo pipe along the footing with the extended lip resting on the PVC angle. Provide a minimum 1/8" space between the side of the footing and the side of the pipe. Install the snap-on top to connect the pipes.

Provide large gravel along the outside of the pipe to prevent soil from entering the pipe. The bottom of the Thermo-Flo pipe shall not be lower than the bottom of the footing.

The connected system of Thermo-Flo pipe shall lead to a point of water discharge. The water shall be discharged in an approved manner that meets the local codes.

The floor slab is poured directly over the top of the Thermo-Flo pipe. Provide minimum 6 x 6-W1.4 x W1.4 welded wire fabric reinforcement in the floor slab.



INSTALLER QUALIFICATIONS:

The Thermo-Flo basement waterproofing system shall be installed by applicators trained and authorized by B-Dry System, Inc.

CERTIFICATION AND LABELING:

Thermo-Flo Pipe is manufactured under ISO Quality Control Protocols 9001:2000. In addition, it is visually inspected for imperfections prior to shipment to the field.

Rigid Sealer is manufactured under ISO Quality Control Protocols 9001, 14001. It is also visually inspected before shipment to the field.

MANUFACTURING LOCATIONS:

The products covered under this MR will be produced at the following plants:

Thermo-Flo Pipe:

Preferred Plastics
800 E. Bridge Street
Plainwell, WI 49080
Contact: Mike Howes
Phone: (269) 685-5873

Rigid Sealer

Spartech Plastics
314 East Fourth Street
P. O. Box 98
Clare, MI 48617
Contact: Ron Inniger
Phone: 517-386-7766

WARRANTY:

B-Dry System fully warrants the areas waterproofed with the Thermo-Flo system to be free from water leakage for the full life of the structure, regardless of ownership. Should service be required, the installing licensee should be notified and B-Dry Systems will at no additional cost of the customer, provide such labor and materials as required. This warranty does not cover: backing or plugging of sewers; floods; condensation caused by high humidity; damp spot discoloration of walls; or sump pumps, which are covered by separate manufacturer's warranties. This warranty is transferable from owner to owner, should the house be sold.

A copy of the full warranty shall be given to the homeowner with each completed job.

MANUFACTURER'S RESPONSIBILITIES:

Issuance of this Materials Release (MR) commits the manufacturer to fulfill, as a minimum, the following:

1. Produce, label and certify the material or system in strict accordance with the terms of this MR.
2. Provide necessary corrective action in a timely manner for all cases of justified complaint, poor performance or failure reported by HUD.
3. When requested, provide the FHA Standards, Office of Manufactured Housing Programs, HUD Headquarters, with a representative list of properties in which the material, product or system has been used, including complete addresses or descriptions of locations and dates of installation.
4. Inform HUD in advance of changes in production facilities, methods, design of the product, company name, ownership or mailing address.

EVALUATION:

This MR shall be valid for a period of three years from the date of initial issuance or most recent renewal or revision, whichever is later. The holder of this MR shall apply for a renewal or revision 90 days prior to the Review Date printed on this MR. Submittals for renewal or revision shall be sent to:

U. S. Department of Housing and Urban Development
FHA Standards, Office of Manufactured Housing Programs
451 7th Street, SW, Room 9168
Washington, DC 20410-8000

Appropriate User Fee shall be sent to:

U. S. Department of Housing and Urban Development
Miscellaneous Income - Technical Suitability of Products Fees
Bank of America
P. O. Box 198762
Atlanta, GA 30384-87562

The holder of this MR may apply for revision at any time prior to the Review Date. Minor revisions may be in the form of a supplement to the MR.

If the Department determines that a proposed renewal or supplement constitutes a revision, the appropriate User Fee for a revision will need to be submitted in accordance with Code of Federal Regulations 24 CFR 200.934, "User Fee System for the Technical Suitability of Products Program", and current User Fee Schedule.

CANCELLATION:

Failure to apply for a renewal or revision shall constitute a basis for cancellation of this MR. HUD will notify the manufacturer or producer that the MR may be canceled when:

1. conditions under which the document was issued have changed so as to affect production of, or to compromise the integrity of the accepted material, product, or system,
2. the manufacturer has changed its organizational form without notifying HUD, or
3. the manufacturer has not complied with responsibilities it assumed as a condition of HUD's acceptance.

However, before cancellation, HUD will give the manufacturer a written notice of the specific reasons for cancellation, and the opportunity to present views on why the MR should not be canceled. No refund of fees will be made on a canceled document.

This Materials Release is issued solely for the captioned firm, and is not transferable to any person or successor entity.
